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VOL. XXVIII.

ST. LOUIS, MISSOURI, AUGUST 9, 1895.

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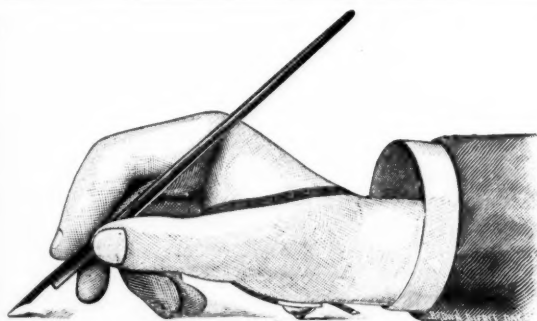
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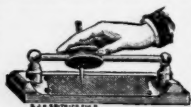
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VOL. XXVIII.

ST. LOUIS, MISSOURI, AUGUST 9, 1895.

No. 8



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HIGH IDEALS.

The idea of its life shall sweetly creep into the study of his imagination.

—Shak.

WHAT the teaching force of this and other states needs most to-day to make our institutes effective is *higher ideals* and the enthusiasm which they engender. These reveal to them the necessity of more scholarship. Let our teachers become possessed of this great idea, and they will never rest until they have done their best to realize it. It is the *worthy purpose*, clearly discerned, that is better than goad or lash to stimulate achievement. The teacher who cannot be inspired by a high ideal, and will not spend and be spent to realize it, is not the teacher that the institute can help. He is of the earth earthly, and it is only a question of time when he will be crowded out of the profession of teaching into a more "earthly" vocation.

"The teachers that are capable of such inspiration and are hungering for it are legion. It is the fault of the leaders if they ask for bread and receive a stone.

They may not ask, consciously, for the consciousness has never been awakened; but they are ready

to respond when the stimulus is applied.

Let the teachers of the country become inspired by a high ideal of what it is *practical* for the school to do for the children, and let the superintendents catch the inspiration also, and study to help all to realize this higher ideal.

THE Institutes in Missouri, Illinois and other States are now in full blast—more largely attended in most instances than ever before. Better instruction, more enthusiasm and more helpful training for duty in the school-room, mark these important gatherings. We suggest that the evening meetings be made to count strongly towards working up public sentiment for better schools. Let ushers be appointed to welcome and to seat the large audiences which gather.

Let stirring music be furnished; let every visitor be cordially welcomed also.

In fact, crowd the institute with noble examples, as well as with high ideals of teaching, and then show the way to their practical attainment. It is thus that it will be made a source of *inspiration* and *guidance* to the teachers. To do this, inspiring instructors must be employed.

WE pay smartly and roundly for incompetent and ignorant rulers which we elect to office in this country. Ignorance costs, intelligence pays.

IMPORTANT CONSIDERATIONS.

What you have said I will consider.

—Shak.

DR. W. H. BLACK, of Missouri Valley College, Marshall, Mo., said some things at Pertle Springs worthy careful consideration by our educators in Missouri. In fact Dr. Black always speaks to the point.

He said that denominational schools were so *important a factor* in the general educational work of the country as to call for recognition by the teachers of Missouri. Sixty-five per cent of the students in the higher institutions of learning are in private and denominational schools. Probably fifty per cent of all undergraduate students of the country are in denominational colleges. In Missouri, a partial collection of statistics shows that there are 126 teachers and 2,289 students in such colleges and secondary schools. He then showed that while the aim of all these schools was "education," it was also distinctively Christian education. This word "Christian" is the qualifying term, and presents a distinct ideal which it is designed by these schools to realize. It is proposed to give an education thoroughly controlled by the doctrine that "Man's chief end is to glorify God and to enjoy him forever." Its methods of government are designed so as to place Christ as the center of authority and motive. It gives emphasis to the Bible not only as the word of God, a divine rule of faith and practice, but also as affording to all diligent students of its pages, the best preparation for the most intelligent and thorough appreciation of all that is best in English literature. In thus teaching the Bible, the Christian college is altogether embarrassed in calculating its religious doctrines and duties and hence can do this work thoroughly. He argued that the denominational school should be

recognized as an integral part of our educational system:

First Because of the work it is actually doing.

Second. Because of the distinctive motive and aim which inspire the work and give it its peculiar characteristics.

In the discussion which followed, Dr. E. C. Gordon, President of Westminster College, Fulton, Mo., called attention to the fact that in the first fifty years of the life of the country, the denominational schools did nearly all that was done in the way of "higher education," that the Methodists were the first to found a college for women: Hence the people of the country owed a debt to the churches which could never be paid.

HERE YOU HAVE IT.

Let all the number of the stars give light
To thy fair way.

—Shak.

WE are indebted to the Rev. E. N. Andrews, one of our most valued contributors, for copies of the *Boston Journal* containing complete reports of the great Christian Endeavor Convention, with its 56,000 registered delegates.

The *Boston Journal* of Thursday, July 11th, in its "Pen Pictures" of the various delegations as they arrived, says:

"The star delegation of the day was one from St. Louis, which came at 7 o'clock, the nine cars comprising the second section of the delegation from that vicinity. There were 250 of them in charge of W. H. McClain. Physically and otherwise it was freely spoken of as the finest looking delegation that had come into the station. They left home Monday evening, and were due here at noon, but a train ahead delayed them this side of Niagara Falls, where lunch was served on the train.

"Mr. McClain is an expert at handling such parties, and had

things wonderfully systematized, so that all confusion and mixing up was avoided. The St. Louis people presented a natty appearance with straw hat bands of blue and white."

WE took the excursion from Denver on the open cars of the Denver & Gulf Ry. up to Idaho Springs, Georgetown, over "the Loop," and on up to Silver Plume and Graymont. This was such a revelation of grandeur and sublimity as we had never before witnessed. There is no power of description adequate to properly describe "Clear Creek Canon" with its awful depths and the sublime heights of the towering peaks of the Rocky Mountains. It must be seen to be realized. Conductor C. E. Wise and the train hands were polite, communicative and well-posted, and did all in their power to make the trip one of pleasure and profit. The Denver & Gulf Ry. is truly the scenic line of the world, and no excursionist to the west should fail to take this trip over the Loop. Through the kindness of B. L. Winchell, G. P. A. of the Denver & Gulf Ry., we are enabled to show two scenes on this famous trip

CHRISTIAN Citizenship was the theme most prominent in all the speeches, prayers and songs of the Christian Endeavor Convention in Boston, so that spirit will now dominate their efforts. Dr. John Henry Barrows, of Chicago, says: "The Christian Endeavor uprising is the breath of the Holy Ghost inspiring a vast army to be witnesses of Christ."

LET those who thoughtfully consider the brevity of life remember the length of eternity.—Ken.

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CORDIALLY WELCOMED.

His worth is warrant for his welcome hither.

—Shak.

THE welcome of the delegates to the "Pan-American Congress of Religion and Education," held in Toronto, Canada, July 18, was most cordial and Christian, with banners, music, prayers, speeches, prophecies and expressions of good will, as if the great heart of the city would repeat once and again:

"Now welcome more,
And ten times more, beloved."

W. B. McMurrich, Esq., Q.C., Ex-Mayor of Toronto, Chairman, Joint Local Committee, said he esteemed it a great privilege, as well as a high honor, to be allowed to preside at the most influential of the many congresses which have gathered in Toronto during the past ten years. It was the most influential in that it was bringing together the *leaders* of diverse thought and creed for friendly interchange of ideas on the two great issues of religion and education.

At the close of the address, the following telegram from Buffalo, N. Y., was read:

"Buffalo sends greetings to the most distinguished gathering the world has ever seen. Human Brotherhood."

Mayor Kennedy read an eloquent address of welcome to the convention. He spoke of the interest felt by Toronto, and in glowing terms delivered a high eulogy on the cause of religious toleration. He referred in most complimentary terms to the work and objects of the Congress, and expressed his hopes for their success in spreading the spirit of liberality and charity abroad in the land.

Rev. Thomas Sims, D.D., President of the Ministerial Association, Toronto, was the next speaker, and delivered the address of welcome on behalf of the Ministerial Association, and he told humor-

ously of the varied character of the composition of that body. Varied as it was, the Association had responded with great readiness to the suggestion that they should welcome the coming of the Congress. Dr. Sims went on to dwell on the fact that after all right thinking was valuable as conducing to right living, and that deeds were of more importance than creeds.

THE PRESIDENT'S REPLY.

Rev. Dr. Samuel G. Smith, of St. Paul, Minn., President of the Congress, returned thanks for the generous welcome which had been tendered them, for the words of the Chairman of the Reception Committee, for the Mayor's carefully-prepared address, and for Dr. Sims' welcome from the city's ministry. Dr. Smith then referred in graceful terms to the way in which the British and American flags were intertwined in the decorations, and amid applause expressed his hope that never should the two be rent asunder. It was a prophetic gathering, it was representative of the remnant of which Isaiah had spoken, the idea of which Matthew Arnold had enlarged, and which existed to guide upward the destiny of the world.

Father Ryan delivered a short address of welcome. He was glad to join in the welcome which Mayor Kennedy had tendered; the Archbishop had commissioned him to express his welcome, and the hospitality of St. Michael's Palace was offered to the delegates to the Congress.

Mrs. Charles Henrotin, of Chicago, President of the Federation of Women's Clubs of America, was the next to address the meeting. She remarked that woman's religious attitude was characterized by intense practicability; the men made the creeds, and the women put them into practice. She then spoke in terms of warm admiration

of her Majesty Queen, Victoria, as a representative woman in the highest sense, and claimed Mrs. Cleveland as one of America's representative women. She concluded by expressing a hope that the Congress would outgrow the bounds of the Anglo-Saxon race and extend to the Latin races.

Rabbi Elzas, of Charleston, S. C., delivered an admirable speech on behalf of the Jewish delegates and visitors. He thanked the previous speakers for the cordiality of their welcome. All religions, in their basic foundations, in their essentials, are one, he said, and they met there, not as representatives of sects or denominations, but as brothers, all interested in and working for the advancement of the human race.

Mrs. Lydia Von Finkelstein Mountford closed the speaking with a thrilling address, telling of her own upbringing in the City of Jerusalem, and of the congeries of races and creeds which she had seen gathered together in that city, and she went on most graphically to plead for greater religious unity.

The singing of "Blest Be the Tie that Binds" closed the afternoon session of welcome.

EVENING SESSION.

Rev. William Clark, M.A., LL.D., D.C.L., F.R.S.C., Professor of Philosophy, Trinity University, Toronto, presided in his able, genial way.

There was an audience of about 3,000 persons present, the hall being well filled with delegates.

Hon. C. C. Bonney was the first speaker, his topic being "The New Movement for the Unity and Peace of the World." He began with a description of the new liberty, the watchword of which, he said, is the golden rule; whereas the old liberty was personal and to some extent selfish. He outlined the progress of humanity towards the realization of the goal of this new

liberty, and found in the World's Congress of 1893 the greatest step taken towards it.

Mr. Bonney said, "It is a noteworthy and auspicious fact that this Congress is convened in a North American city which enjoys the reputation of being a model municipality in government, good morals, education, religion and their attendant graces; and I therefore gladly avail myself of this opportunity to congratulate both the City of Toronto and the Pan-American Congress on their happy relation to each other, and to the great movement in the promotion of which they are united."

Hearty applause greeted Rev. Dr. Smith as he advanced to the front to deliver his inaugural address upon the work of the Congress. The Congress, he said, was born out of the needs of the new age, and wider co-operation and a broader recognition of existing goodness and truth, he placed as prominent among these needs. The world is awakening to a sense of universality, he said, and that was another way of saying that it was coming to a knowledge of God.

"The modern Gospel is preached by the modern newspaper. The daily press for multitudes of people takes the place of all other Bibles, both sacred and secular. It is certain at all events this modern journalism escapes the charge of being Sunday-school literature," he said, and he went on to point out that the newspaper was but representative of society.

"This age is seeking to realize the unity of man. Japan, Russia, India, Africa, all are advancing," he said, "and the nations are not only exchanging commodities, but ideas. Great thoughts, great events, great men are no longer local; they have come to be of universal significance. The reign of the divisive forces of the past seems to be gone forever. On this earth

thus humbled there is evolving in the march of Divine Providence the cosmic man, who is to be the final heir of the world. He will be neither Asiatic, nor African, nor European.

"The new religion, the new philanthropy, no longer seeks chiefly protection and care for the unfortunate; it urges the study and application of social remedies for social diseases, and declares you must quarantine those whom you cannot cure. Nowhere truer than in this field is it seen that we are one body, and 'if one of the members suffer all the members suffer with it.'"

Rev. William Clark, LL.D., Professor of Philosophy, Trinity University, Toronto, concluded the meeting with a brief but happily expressed address on the influence of the Congress. The basis of the Congress, he said, was that *unity* is better than difference; men are longing to cast away their differences and recognize their brotherhood and common faith and common life. * * * Their differences were smaller than their agreements and as tending to show people all these things, he rejoiced that this Congress had met in Toronto.

We can give but the briefest glance at these great addresses, but they raised the immense audience high above all mere sects and creeds to a large, free scope of vision. This Pan-American Congress is larger than man.

This light generated there will shine out with wondrous thousand-fold expansion, and spread itself and find voices to utter great words about it—a precious possession, stretching on through all lands and times. Its history will yet be written large.

W. J. Cord, Dentist, 1325 Washington Ave., (cor. 13th St.) Bridge work. \$6.00 a tooth; gold filling, \$2.00; all other filling, \$1.00. Everything first-class. Hours, 8 to 6; Sundays, 9 to 3.

DEGREES.

This chaos when degree is suffocate,
Follows the choking.—Shak.

AMONG the important resolutions passed at the late annual meeting of the Missouri State Teachers' Association we are glad to note the following as timely and which we hope will serve to tone up this matter of "degrees," and the classification of colleges.

Resolved, That in response to the Missouri College Union's request, presented to the association by Dr. W. H. Black, President of Missouri Valley College, the president of this association appoint a committee consisting of the President of the Missouri State University, the State Superintendent of Public Schools, the presidents of two colleges of the Missouri College Union, the principal of one private academy, the president of one State Normal, one city superintendent of schools and two high school principals, to consider the classification of the colleges and universities of the State, to confer together concerning requirements for entrance to colleges and universities in Missouri, to recommend secondary school courses leading thereto, and to report to the next session of the State Teachers' Association the results of their deliberations.

ONE of the most practical talks it has ever been our privilege to hear was that given the teachers of Webster county at Marshfield, Mo., by State Supt. Hon. J. R. Kirk. Supt. Kirk has no fine spun theories. but from the depths of his experience he tells what has been done, what should be done, what can be done, and shows how to do it. Our State Superintendent is eminently practical.

At present there are eleven cable lines across the Atlantic Ocean, and these have cost \$70,000,000.

ONE of the best speeches made at the great Denver meeting on correlation and co-ordination of studies was that made by our Prof. L. F. Soldan, Principal of the St. Louis High School. Prof. Soldan well says, "The best teachers have been using and practicing the much talked-of correlation for years."

The various studies pursued in the schools continually blend together. There is not nor ever can be erected a strong wall around each study to separate it from other studies. History and geography go hand in hand. Reading, language, and grammar cannot be separated while the sciences and arithmetic are useless each without the other.

THE railroad arrangements for the great Denver meeting were as near perfect as they could possibly be. Our party went over the Chicago & Alton and Union Pacific, in the teachers' special, and every one was delighted with the accommodation afforded them on the trip. Though the washout in Western Kansas caused a little delay, it also gave us the pleasure of a delightful ride through the great corn belt of Nebraska, and no one was heard to complain. In talking with many other teachers, each and every one thought the route over which they came was the best. Traveling alone is tedious and tiresome, but with from one to two hundred teachers in special train it is one continuous pleasure.

OFFICERS ELECTED.

*** And you an officer fit for the place. —Shak.

THE late meeting of the Missouri State Teachers' Association, while the attendance was not large, was profitable for the breadth of topics discussed.

We did not learn how many of the thirteen thousand teachers of the State were present. In another

column we give a resume of the resolutions passed. The following officers were elected for the ensuing year: President, J. M. White, Carthage; Secretary, E. D. Luckey, St. Louis; Treasurer, J. H. Merrill, Warrensburg; Railroad Secretary, F. D. Thorpe, Kansas City; First Vice-President, Dr. W. H. Black, Marshall; Second Vice-President, T. L. Rubey, Rolla; Third Vice-President, D. B. Veasey, DeSoto; Fourth Vice-President, Miss Mary Prewitt, Kirksville.

Place of meeting, Pertle Springs.

Time of meeting, June 23, 24, 25, 1896.

THIS district school library, to which the masses may come in their every-day vesture to be refreshed, invigorated, inspired to feel the pulse of the best life yet lived, and its quickening beats of thought through their own souls. What new vistas of life would be revealed; what strength, courage, piety, patriotism these libraries would inculcate! How a teacher who inaugurated such a movement would live on in the precious memory of all who drink at this inexhaustible fountain!

WE hope early in the season our teachers in every school district will organize and adopt some efficient method for securing a library. The pupils need it, the teachers need it, and the people need it. It will be a very effective method of both an improvement and a pleasant memory. What new worlds of thought, feeling and action books and libraries introduce among the readers.

OUR interest-bearing indebtedness has increased \$162,325,500 since March 1, 1893, which the people must pay—principal and interest. You must pay your share,

either directly or indirectly. Is it not time we began to look into this question of government and taxes in our schools? We think so.

Resolutions Scott County Teachers' Institute.

WE, having been appointed as committee in the Teachers' Institute held at Sikeston, June 17-29, 1895, submit the following:

1ST. That as the Institute is drawing to a close, and soon each of the teachers will enter upon their respective duties in their schools in the several parts of the county, we wish to thank the people of Sikeston and vicinity for their assistance in making our short stay among them as pleasant as it has been; and be it

Resolved, That we thank the people for the use of the church, and also the school board for the use of the school house during the session; and, be it

Resolved, That we thank our most efficient County Commissioner, Prof. W. G. Atchison, and our instructors, Prof. J. H. Winkleman and Prof. J. M. Cook, for their able services rendered, and for the interest shown and taken by them; and be it further

Resolved, That a copy of these resolutions be furnished for publication in each of the Scott County papers, and also a copy be sent to the AMERICAN JOURNAL OF EDUCATION.

Respectfully,

W. M. DAY,
MINNIE SAYERS,
S. G. RAGAINS.

Committee.

WHILE man is growing, life is in decrease, and cradles rock us nearer to the tomb.—Young.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. CHENEY & CO., Toledo, O.

Sold by Druggists, 75c.



MODERN EDUCATION.

BY WILLIAM M. BRYANT, M. A., LL. D.

IV.

AND this leads us to note further that through the study of the outer world the pupil is led to discover three aspects distinguishable in thought, however inseparable they may be in concrete reality. These aspects are (1) Form, (2) Force, and (3) Types.

The science of Form, it need hardly be said, constitutes in its abstract generality the whole range of pure mathematics as dealing with quantity under the form of *extension*. It is true that these abstract relations can be realized only in thought. And yet, on the other hand, they can be realized in thought only in so far as thought *projects itself into space*, and thus, hard as the saying may appear, *actually creates space*. For after all what *is* space but a concept or mode of the mind? It is for this reason that while such forms are seen to be essentially *forms of thought* they are also *forms of space*—a statement the significance of which will appear more fully as we proceed.

What we have now more immediately to note is the fact, already referred to, that the more universal aspects of things are really the simpler aspects, and hence those most easily apprehended. And we may now add that mathematical (in the sense of geometrical) forms of the more elementary order are among the very simplest of all phases of thought, and hence specially suited to the earlier stages of educational work. In fact, so far as mere

forms go the child has become familiar with them in the concrete (through perception and imagination) long before he is called upon to *think out their relations* in their abstract character.

It is a deeply interesting fact, too, that so soon as the youth is brought to attentively consider these abstract relations, he seems to have *always known them*. It is on such facts as this that Plato (as in the *Meno*) bases his doctrine of 'Recollection,' or, as it is called in modern times the doctrine of 'innate ideas.'

Indeed in modified form doubtless this doctrine has its truth. For, however, absurd may be the claim that the individual mind is born with ready-formed "ideas" in actual possession; it is evident that the *possibility of all thought* is inherent in the ultimate *nature* of the mind and that thus in the course of the development of each individual a stage must at length be reached in which to think a given thought and to exist will be alike and equally *natural*. And not only so, but in the modern (scientific) form of the doctrine of heredity abundant evidence is presented showing that already at birth the individual mind is a highly complex unit of actual (inherited) tendencies, including predisposition toward definite and manifold specific forms or modes of thought.*

V.

And here it is desirable to indicate and emphasize the practical pedagogical value which is thus presented. Something of this suggestion has indeed already come under notice. It is that the simplicity of geometrical forms and relations renders them especially available for early educational work; so that their study might be begun with great

advantage at a period much earlier than that usually assigned such work. Much, if not all, of plain geometry might easily be learned by pupils before leaving the district school. And abundance of time could be secured for this by dropping the great mass of confusing and more or less arbitrary processes constituting the bulk of the traditional arithmetic after fractions.*

Most of these processes tend rather to confuse and stultify than to clarify and strengthen the minds of pupils. While on the other hand the study of the universal and necessary space-relations presented in geometry must have the effect to clarify, widen and inspire the naturally eager minds of youth.

Set fundamental, vital truths before a child and he will feed upon them as naturally as the rose drinks in sunbeams. Compel him to memorize arbitrary rules meaning nothing to him, and the effect will be like that of encasing the opening rosebud in a coat of glue.

Only let the work here be truly 'elementary'—strictly confined to the emphasizing of genuinely *elemental* aspects, the universal principles of the subject, through the clearest possible examples.

But in the next place let us observe that mathematics, as primarily the science of universal space-forms, is found also to have a vast range of concrete applications. And from the study of abstract *Forms* the next step is the tracing out of relations of *Force* as giving concrete realization to such *Forms*.

For example, all the sections of the cone have their actual realization in various orbital movements—not in absolute simplicity indeed, but yet in essential principle, with absolute conformity to law throughout, and with vastly added wealth

*This thought is much more fully worked out in a later address on *Socrates as a Teacher of Ethics*, (published in Proceedings of the St. Louis Society of Pedagogy, 1894-5)

*This modification is now (1895) already under consideration with a view to practical application in some of our city systems. (The present address was delivered in March, 1895.)

of beauty through complexity of relation far beyond human power of actual measurement. Indeed, in the range of natural phenomena quantitative relations are quite boundless in extent and in variety. So that for educational purposes there is only so much the greater need that in the department of physics—that special aspect of science dealing directly with the relations of Force or Energy,—the utmost care should be exercised in order that the student may be led to seize fundamental, universal forms and relations in their vital significance, as the inmost substance which is unfolded in the details of any single sphere. Thus can such details be properly selected and restricted to the proper educational values as simply and exclusively *examples* of the universal forms and relations involved.

If now we consider the space relations involved in chemistry it appears that the qualitative aspect is here unquestionably uppermost. For wherever and however far quantitative relations are discovered and represented, it is still the quantitative result that is of interest. Indeed the space-relations here are found to be realizable only in *thought*, and that in the strictest sense of the term. To *figure* them is impossible. Thus, in a molecule of water we can only say: Wherever the hydrogen is, there the oxygen is also. The elements are not merely side by side with one another in minuter subdivision. Rather they are *completely interfused*—mutually penetrated, in utter defiance of the orthodox doctrine of the impenetrability of matter. So that here geometry as the science of space forms has no legitimate application whatever. Extensive quantity passes over into intensive quantity—that is, into *quality*, which is the real truth of the fourth and any

possible higher “dimension” of space.* And here again let the pupil be led to clear recognition of fundamental principles through the study of the most important types of compounds, and let him be carefully guarded against the confusion due to overmultiplicity of details.

One step further and we find ourselves engaged in the study of the biological sciences. Here the relations—still space-relations, though concretely unfolded in Forms of Force—are so much more complex as explicitly to include both the quantitative and the qualitative aspects.

In other words, Force here rises to such complexity of relation as to constitute organic units—that is, more or less precisely defined *Types*. Geometrical forms appear in prodigal variety, as well as in complexity of combination—for example, in trunk and branches and foliage of trees; in the total form as well as in the members and organs of animals.

And now in all this we have to emphasize the fact that the quality of *Life* introduces a specially significant relation not otherwise known. It is the relation between *structural form and functional activity*.

Like all other relations the one here met with is reciprocal. At any given moment the given structure does indeed fix the limit of possible function; but also the continuance of the function tends from generation to generation to modify the structure; so that while the immediate fact is undeniable that structure limits function, it is equally true that in the outcome function determines structure. †

* For more extended discussion of this point the reader is referred to my volume, *The World-Energy and its Self-Conservation*. Chicago, S. C. Griggs & Co.

† Admirable results are now (1895) developing along this line in the tracing of processes in the St. Louis Schools and, especially under the direction of Principal F. E. Cook in all the grades (Crow School).

Here, indeed, there emerges the most explicit and undeniable proof that throughout nature there is the steady pursuance of an End, an Aim—that through every form and pulsation of nature, there runs one vast purpose comprising all, controlling all, harmonizing all, transfiguring all. Nay, man himself, the irrepressible questioner, is but the highest term in the sublime Process having its visible initial point, it may be, in the nebula; but yet within that compass running steadily on with all the leisureliness and the resistless energy of “Fate” to the highest possible culmination. And Fate, *real Fate*, that is nothing else than the eternally perfect, and hence unchangeable World-Order through which the great World-Purpose is forever perfectly unfolded. It is in and through this Process that in any given portion of space there comes to be unfolded, first, life; then, conscious life; then conscious spiritual Life possessing the divine quality of Freedom.

Doubtless man *was* created from the dust of the earth; and, still further back, from cosmic dust. Science, instead of denying this, has but revealed to us the marvelously elaborate perfection of the creative Process.

And now when we come to clearly recognize all this it is evident that we but change the forms of expression when we say that throughout this whole Process as constituting its inmost essence there is everywhere manifest *Mind* as the ultimate creative principle—the all-sufficing, self-unfolding Energy constituting the vital *Universe*—the absolutely rational, and hence self-conscious ALL. And further, it is evident that without careful, reverent study of this Process in all its essential characteristics we shall hopelessly miss that outer aspect of Revelation to know which in its fundamental character is es-

sential to the true education and ultimate self guidance of any individual member of the human race. So that the study of science, rightly pursued, far from tending to gross "materialism," really leads to the loftiest conception of the Creator as the present Reality—or Real Presence—in every form throughout infinite space—in star, in lily, in man.

VI.

But here in the biological sciences, we have, again, endless multiplicity of details with corresponding danger of losing sight of types and principles from sheer excess of illustration. No doubt, the original discoverer must exercise utmost caution so that he may be at least approximately exact in his announcement of the type-determining principle which he discovers. No doubt, too, that as an original investigator, he should carry his verification as far into details as possible, so that along with the announcement of the principle he may also present its sufficient justification, that is, its demonstration. In which case the original investigators who come later into the same field will have for their chief task the discovery of further phases in the application of the principle, with occasional correction in matters of detail. Their business will be rather to confirm and complete, than to refute and substitute.

In truth, "refutation" refutes itself unless it includes the recognition of the positive import involved in that which it criticises, unless it sees in this positive import the germ and prophecy of what yet remains to be unfolded. Indeed, the chief danger to education at the present day comes from the headlong clamor of enthusiasts who fondly imagine that to be "modern" means chiefly to spurn the achievements of all former times, these being "antiquated" and hence

"puerile." The first impulse of the youth is to escape from puerility by straightway declaring the value of boyhood to be *nil*!

In reality the history of science, from Aristotle to Darwin, shows that advance—real growth—is possible only through reverently cherishing all the organic results of previous investigation, and assimilating into this organic product whatever new relations may be discovered. Only thus can one become truly "modern."

But the original investigator is of necessity a specialist. His "education" is already presupposed in the very beginning of such work. He must have formed the habit of dwelling consciously and deliberately upon the general or universal aspect of things before he could enter successfully upon a career of discovery. Otherwise the very multiplication of details cannot fail to result in confusion, in the obscuring rather than in the clarifying of his view as to the character and extent of the principle which may at first have been present to his mind in fairly clear, though far from adequate, form.

It is, in fact, as I cannot but think, just the failure to rightly apprehend the true relation between particular fact and universal principle that has overloaded the educational work of to-day with details until the very elaboration of the schools as a means toward sound, vigorous, mental development has resulted in the unfolding of a most ingenious and fairly perfect set of conditions for the insuring of mental dwarfage.

We must have mathematics; we must have physics; we must have chemistry; we must have geology; we must have biology. Lacking either of these phases, "modern education" would be an altogether farcical contradiction of terms. And who can deny the justice of this claim?

But we "specialists" can scarcely escape the conclusion that the importance of *our* specialty not only justifies but imperatively demands an extended course. We cannot endure that youth should come out of school "mere smatterers"—very likely *conceited* smatterers—yet tripping, perhaps, upon the first detail presented. Not that! Far from that! On the contrary, our pupils must be "*well-grounded*" in the science!

How poor seem the acquirements even of the best of the class just concluding their study of the given subject! The course is not "*thorough*" enough. Add more details; give more *body* to the work! And at length "*body*" enough has been given—body enough to fatally smother the soul, were it not that the soul is the immortal part!

And just here and now the "soul" under consideration consists of the fundamental, vital principle constituting the central significance of the whole range of facts in any given sphere. And it ought not for a moment to be lost sight of that for educational purposes such principle is the first and the last in point of importance. Let the rule be invariable, then: *To require just so many and only so many "facts" or "examples" as will suffice to put the learner in sure possession of the Principle*—i. e., in possession of the clew for self-guidance in all his further investigation. Otherwise details are sure to be multiplied until the principle is lost sight of, and the experiment room or the array of collections becomes a mere curiosity-shop, while the lesson or lecture degenerates into a mere means of amusement; that is, a means of agreeable but fatal dissipation of energy.

Never was sophistry more insane, or rather, inane, than that of the catch-phrase, "One fact is worth a thousand theories." A

fact? Why a "fact" cannot be a fact to me at all until I apprehend it as an *embodied Principle*—that is, until I have seized it as a concrete instance of a *theory*.

And is this not the counterpart of what has already been said: That the whole world in space is really comprehensible only as the outer, infinitely complex mode of the perfect, creative Mind? It is the Law, the eternal aspect of Truth, the *Thought* in things that all investigators more or less consciously seek after, and that constitutes, and must forever constitute, the real subject-matter of every rational scheme of education.

Let this be but thoroughly comprehended, and we come at once upon a further suggestion in practical pedagogy. For if what has just been said is true, then it becomes evident that the school-book should be literally a *text-book* of Principles having for its purpose to serve as a means of clarifying and emphasizing in the mind of the learner the essential, abiding aspects of the given theme.

Taking this as the clew, it may be seen, first, how large a saving of time might be secured by eliminating the mere curiosity-shop side of every subject;† and, secondly, for the strict purposes of education, how rigidly the text-book must be distinguished from the *reference* book in any department. The reference-book is the more valuable, the more exhaustive, the more nearly "unabridged" it is. On the other hand, the very idea of a text-book requires that it be limited strictly to its proper use as a means of aiding the pupil, under the guidance of the teacher, to seize and assimilate fundamental principles and types.

Apply this rule rigidly, and what a reduction—often what a com-

plete transformation—must take place in the current text-book!

Briefer text-books, of finer quality, in and through which principles are sharply defined and emphasized; readjustment of the course of study into more thoroughly organic form; reduction of the *amount* of work required of the individual teacher; increased demand for high *quality* of work on the part of each and all—such the simple formula by which educational methods and results are to be rendered truly and increasingly *modern*! By just such simple conditions will the pupil be most easily and securely brought to comprehend and assimilate principles, and thus to grow steadily out of the narrowness and weakness of childhood into the breadth and rhythmic strength of genuine manhood.

With such preparation fairly completed, the individual can henceforth with security devote himself to the mastery of details, illustrating and extending his knowledge of the universal, necessary, and hence unchanging, characteristics of the ultimate Energy as far as these characteristics are concretely unfolded in space-forms. And such forms, let us again note deliberately, constitute one fundamental aspect of Revelation—an aspect of the highest importance, but which has scarcely been read, even with approximate accuracy, save in our own "modern" times.

THE Missouri Teachers' Association at the last meeting resolved "That we recognize in the Hon. John R. Kirk an able, courageous and conscientious State Superintendent, and hereby pledge him our hearty support in his efforts to improve the schools of Missouri."

PRAYERS for opening and closing Public Schools. Price, 25 cents. Address, Rev. U. P. Heilman, Athol, Pa.

8-5

MR. WILLIAM VINCENT BYARS, of South Orange, N. J., already known to the readers of the JOURNAL as a writer of poetry of a high order, has recently published three pamphlets containing further specimens of his work. One of these is entitled, "Babble of Green Fields, With Psalms and Symphonies of God's Country," and is made up of short, significant poems of rare melody. Mr. Byars has recently seen that all poetry is originally not merely metrical, but also rhymed, and that one has only to break through the artificialities of the early editors to find the short runic rhyming lines of the original as composed for and in chanting.* This discovery, or rather recovery, as Mr. Byars terms it, has had a distinct effect upon his own original work, as shown especially in the "psalms" contained in this forty-page collection, notably the "Psalm of Creation," on page 11. The arrangement of the matter composing the pamphlet, too, gives a connectedness of meaning, beginning with "The Meaning of May," and "A Psalm of Hope," and ending in "The Distant City," "The North Wind's Foray," and an exquisite rendering of "St. Paul's Poem on Love."

It would be vain to attempt to indicate, in a brief notice like this, the subtle suggestiveness of these poems. We can only urge the reader to communicate with Mr. Byars and obtain from him these inexpensive pamphlets. The other two are: "The Isle of Dreams," and "The House of Fate, a Sooth-saying of Liberty,"—the latter being an interpretation of Fate in its highest term of self-regulating human life, which constitutes true freedom. And naturally enough America is clearly pointed to as the predestined land where this solution is to be worked out in fullest measure.

*A full account of this was first published a few months since in the *New York World*. Mr. Byars being himself now on the editorial staff of that paper.

† The very part retained in certain text-books, prepared with a view to rendering the subject "interesting," and education an "attractive" process.

NATURE STUDY.

BY MARGARET K. SLATER.

ONE of the most encouraging indications of the great wave of Spirituality sweeping over the world, and most advanced in our own land, is the effort now being made to widen the course of study in public schools so as to include more study of nature. It has been long since by Froebel and Pestalozzi, the feet of educators have been set upon the proper road, their faces turned in the right direction. How little has been the progress made upon the path of these pioneers, who seem like all geniuses to have rather sensed their discoveries intentionally than arrived at them by rational methods of induction. The truth is always accepted when the world is ready for it, and Pestalozzi and Froebel are studied and appreciated to-day as they have never been in the past, because to-day teachers are sensing for themselves all that these great men felt so long ago.

The child must be educated by the school as he is by nature. If the evolution theory be true (and who doubts it to-day?) it was by external stimulus that internal power of growth and adaptation was brought into greater activity, environment developing the organism, until after countless ages, by the specialization of the senses and sense organs, the complex human form was involved with its five organs of sensibility, by the meditation of which man cognizes the external world, and progress therein. Does anyone doubt that a being with five senses has a better opportunity for getting acquainted with the world about him than one with only four? How much better then will be his equipment if these five are cultivated, by constant use, to the fullest. Nature's course in the evolution of man having been that of

the gradual unfolding of the senses, differentiating the single sense of Touch into the five, does anyone suppose that she has now ceased to operate? Have evolution and education through sense perception suddenly ceased? No, man is being evolved and educated to-day as he has been for untold centuries; but a point has been reached in his development at which he may consciously assist or retard the processes of Mother Nature—for Nature is *only* the mother; it is only the physical man to which she has given birth.

With the development of the senses, new worlds were brought into the sphere of evolving consciousness. By the differentiation of sight came form and color; by that of hearing, the world of sound; and so with the other senses, and by the increasing perfection of these organs came an increase in their perceptive power. Of the organ of sight, Darwin says: "I may remark that, as some of the lowest organisms, in which nerves cannot be detected, are capable of perceiving light, it does not seem impossible that certain sensitive elements in their sarcode should become aggregated and developed into nerves endowed with this special sensibility;" and further on, "We know that this instrument (the telescope) has been perfected by the long-continued efforts of the highest human intellects; and we naturally infer that the eye has been formed by a somewhat analagous process." (Origin of Species, Vol. I, Chap. VI.) We know that the senses, like other faculties, are improved by use, and that organs are atrophied by non-usage. An illustration is furnished by the cultivated vision of the artist in colors, who will discern tones and shades where the casual observer perceives but the one general hue.

I have said that a point has

about been reached at which man may become a conscious factor in the process of evolution. This refers to the genus Homo, of course, for until that point is attained man is not really man, he is only an advanced animal. When he reaches it he becomes conscious of that which Emerson calls the "Over-soul," and knows himself to be a participant in a Life beyond that of the senses. Without the differentiation of the senses there could be no consciousness of this Subjective Self. To this consciousness humanity as a whole is only awakening at the present time. By the proper use of the objective life—the life of the senses—man may widen the scope of his experiences therein.

But it may be asked, "What has all this to do with nature study?" I answer, Everything in demonstrating its utility, providing that it be a genuine study of nature through the medium of the senses, by observation and experiment, and not the mere memorizing of the printed text. We must educate by the method of nature and arouse mental activity by working upon the child's sense. He must be guided, or rather permitted and encouraged, to observe phenomena for himself; his perceptive powers must be cultivated to the utmost. He will naturally in time begin to compare, classify, generalize, and finally seeking the underlying Truth and Unity at the root of phenomena, enter the domain of the abstract, of the higher Mind. The end and aim of all education is to awaken consciousness of this *Aller Ego*, the Transcendental Ego of Kant, and his successors, the Subjective Self. Here is the seat of all knowledge and power, all virtue, all wisdom. This is the immortal Ego that shall see the Almighty face to face. To *educate* is to *lead forth* the powers and virtues of this, as it were, latent self; and thus we see

that the truly educated man cannot be otherwise than a good man. Right educational methods will always hatch out the virtues, we need have no fears as to that. It is essential, of course, that children be kept long enough under their influence, by compulsory education laws, if necessary.

ST. LOUIS, MO., July 24, 1895.

INDIVIDUALIZING, GROUPING AND MASSING.

BY MRS. ADELIA R. HORN BROOK.

THE essence of individualism, so called, is a devotion to the interests of the individual pupil. Those interests are best conserved in some cases by individual work; in others by group teaching and recitations, and in some other cases by mass instruction and the conference of large numbers of workers. No thoughtful educator disputes this fact, and it is asserted, or implied, in the writings of Dr. Harris, President Eliot, Dr. White, Colonel Parker and other prominent educators of the present time.

Those who have tried to teach mathematics to a large class, carried on together for a year with a prescribed amount of grade work, know that in most cases only a few gain an abiding knowledge of the subject. Methods which allow individual teaching, individual testing of the understanding, and individual advancement are absolutely necessary in the successful teaching of mathematics, on account of the nature of the subject.

But in history, geography and spelling, in all the information studies, so called, besides the great economy of time and effort secured by massing pupils, there are other important benefits. It is a great stimulus to the mind to become one of a large number to receive

the same impressions. The enthusiasm generated by numbers is a very valuable agent in instruction, and one that is much neglected in ordinary schools.

The grouping or individualizing in those studies in which the expression of each individual is required should be offset by the massing in those cases in which children are to receive impressions passively, and thus the time and opportunity for both kinds of work are secured. Those who have not thought closely upon these two modes of psychological action have missed seeing some of the possibilities of our schools.

Individualizing, grouping and massing are all essential elements of true individualism in school work. These preclude rigid classifications, and require flexible arrangements and a constant outlook for the welfare of individuals. Superintendent Search, in experimenting upon this, lays great stress upon individualizing.

It is to be regretted that the judgment at Cleveland upon his work was so prompt. Mr. Search is, doubtless, convinced now that it is much easier to organize a system of schools which is highly advantageous to pupils than to explain that system to others without the opportunity of ocular demonstration.

A system of teaching is not like a patent mouse-trap, the construction of which is easily explained in terms which have a definite and obvious meaning. It hardly seems fair to condemn the practical application of an important principle, simply because its exponent fails to make a satisfactory verbal defence of it before a critical audience.

Although the opposition to Mr. Search will probably not cause him

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to check his efforts, and will be useful in leading him to survey his ground more closely, it may tend to repress effort toward individuality and cause many busy teachers to conclude that the ordinary system of rigid grading is good enough. Psychologists, many practical teachers, and even a tolerable patient public, are agreed that greater consideration of individual needs in our school system is to be desired. It is obvious that those who try to secure this and fail are nearer success than those who do not try at all, and that they deserve credit for choosing to make the attempt instead of taking the simpler and safer plan of acquiescing in whatever arrangements they find, even when these arrangements are condemned by the canons of pedagogy.

In view of these facts let us all use the "greatest invention of the nineteenth century,—the suspended judgment,"—until the workers towards individualism, of whom there are many, have time to develop their plans. If no advance is possible on that line, we are reading much psychology for nothing, and we may as well disband our child-study associations and our Herbart clubs before the discrepancy between our theory and our practice becomes too painful.—*Boston Journal of Education.*



Grammar.

1. The name of American, which belongs to you in your National capacity, must always exalt the just pride of patriotism more than any 5. appellation derived from local discriminations.
7. However combinations or associations of the above description may now and then answer popular ends, they are likely, in the course of time 11. and things, to become potent engines, by which cunning, ambitious, 13. and unprincipled men will be enabled to subvert the power of the 15. people, and to usurp for themselves the reins of Government; destroying afterwards the very engines 17. which have lifted them to unjust 19. dominion.

GEORGE WASHINGTON.

The first nine questions refer to the above selection.

Each of the following questions has 10 credits assigned to it.

1. Classify according to notes 1 and 2 the following clauses: a. Which belongs (lines 1 and 2); b. Combinations may answer (lines 7, 8 and 9); c. They are likely (line 10); d. Men will be enabled (lines 13 and 14); e. Which have lifted (line 18).
2. Give (a) three modifiers of may answer (lines 8 and 9); b. three modifiers of men (line 13).
3. Give the word which is modified by each of the following: a. in capacity (lines 2, 3); b. more (line 4); c. in course (line 10); d. by which (line 12); e. to dominion (lines 18, 19).
4. Give syntax of a. appellation (line 5); b. reins (line 16); c. engines (line 17).
5. Select one infinitive and two participles.
6. Give the mode and tense of each of the following verbs: a. belongs (line 1); b. must exalt (line 3); c. may answer (lines 8 and 9); d. will be enabled (lines 13 and 14); e. have lifted (line 18).

7. For what noun does each of the following pronouns stand: a. they (line 10); b. which (line 12); c. them (line 18).

8. Classify as parts of speech the following: a. just (line 3); b. than (line 4); c. however (line 7); d. above (line 8); e. likely (line 10).

9. Select a. a relative pronoun; b. a personal pronoun of the third person; c. a personal pronoun of the second person.

10. Write a sentence whose subject is a. a participial noun; b. a clause.

ANSWERS.

1. a. Adjective. b. Adverbial. c. Principal. d. Adjective. e. Adjective.
2. a. Adverbs now, then, object, ends. b. The adjectives cunning, ambitious, unprincipled, enabled.
3. a. You. b. Must exalt. c. To become. d. Will be enabled. e. Have lifted.
4. a. Subject of a verb not expressed—nominative case. b. Object of to usurp—objective case. c. Object of destroying—objective case.
5. a. Infinitives: to become, to subvert, to usurp. b. Participles: derived, destroying.
6. a. Indicative, present. b. Potential, present. c. Potential, present. d. Indicative, future. e. Indicative, present perfect.
7. a. Combinations or associations. b. Engines. c. Men.
8. a. Adjective. b. Conjunction. c. Adverb (Adverbial conjunction). d. Adjective. e. Adjective.
9. a. Which. b. They, themselves, them. c. You, your.
10. a. Ex. The sailing of the vessel was skillfully managed. b. Ex. "Don't give up the ship," was said by Lawrence.

Methods and School Economy.

1. How may a child best acquire a practical knowledge of grammar?
2. Illustrate by two sentences that a pronoun is a word used for a noun.
3. In primary reproduction exercises, what preparatory work should precede each written exercise?
4. a. Name business forms that should be taught. b. Give an example of one of these forms and indicate the salient points therein that should be taught.
5. In teaching, ideas should precede words. Why?

6. In every lesson, what besides the thought should receive special attention?

7. At what stage of advancement should pupils be required to give logical reasons for arithmetical processes?

8. Name three qualities in the teacher upon which good discipline depends.

9. If a pupil is indifferent to his failures, how may the fault be corrected?

10. What benefits accrue from calisthenic exercises in school?

11. Give an illustration of the teaching of physiology experimentally.

12. State points of excellence in the system of penmanship you use.

13. Shall written exercises for the whole school be required at stated times? Give reasons for your answer.

14. What is the best way for children to study a spelling lesson?

15. Explain how the old adage, "Eyes are better than ears," applies to studying spelling lessons.

ANSWERS.

1. By frequent applications of the principles, as he learns them.
2. Answers will differ.
3. The teacher talks with the pupils about the subject. The teacher writes on the board statements concerning the same, calling attention to capitals and punctuation marks. The pupils reproduce the exercise.
4. a. Bills, checks, notes, drafts, orders, receipts (additional correct answers accepted) b. Answers will differ.
5. Because words are simply symbols of ideas.
6. The language which conveys the thought.
7. When the reasoning powers shall have been sufficiently developed.
8. Self-government. A confidence in his ability to govern, correct ideas of government, decision and firmness.
9. Answers will differ.
10. They serve as recreation. They call into activity the muscles. They tend to promote health, and to prevent deformity.
11. Answers will differ.
12. Answers will differ.
13. Answers will differ.
14. To write it carefully on their slates or pads.
15. Correct spelling depends upon such mental pictures or words as place all letters of the word in their proper

order. A clear mental image of objects such as letters or the written forms of words, is never obtained through the ear alone.

Physiology and Hygiene.

1. Why are the long bones of the limbs made (a) spongy and (b) larger at the ends?
2. What is nature's means of packing and lubricating a joint?
3. What is the function of (a) the lachrymal glands; b. the parotid glands?
4. Explain why many men laboring in shops and factories are more or less deformed?
5. a. If an arm is wounded so that the blood issues in jets, where should pressure be applied to stop the loss of blood? b. Give reasons for answer.
6. Explain how a severe cold may affect the hearing.
7. Explain physiologically the use of butter on bread.
8. Give reasons why clothing should be suspended from the shoulders.
9. Why should children suffering from contagious diseases not be allowed to use, during their illness, books which they expect to use again in school?
10. What three of the special senses are more or less affected by the excessive use of tobacco?

ANSWERS.

1. They are made a. spongy for the sake of lightness, and b. larger to afford facility for the fastening of the tendons and operations of the muscles.
2. The ends of the bones are covered with cartilage and over this is a thin synovial membrane which furnishes a lubricating fluid to prevent friction.
3. a. To secrete a fluid to moisten the eye. b. To secrete a fluid to moisten the mouth, and to aid in digestion.
4. Those men standing or sitting in one position at their work exercise certain bones and muscles much more than others. This in time results in an abnormal development of these parts.
5. a. Between the wound and the heart. b. As the blood issues in jets, it is evident that an artery has been cut. In the arteries the blood flows from the heart; hence, to stop the loss, the pressure must be applied between the wound and the heart.
6. A cold produces congestion of the mucous membrane of the air passages. This membrane extends into the eusta-

chian tube, thus preventing the free passage of air through the tube.

7. Bread furnishes albuminoid and carbonaceous elements, but not fat; hence the use of butter.
8. It is borne on the shoulders easily without undue pressure upon any of the vital organs.
9. The germs of disease often lodge between the leaves of the books and escape when the books are opened, thus sometimes communicating disease.
10. Taste, sight, smell.

Orthography.

Spell, using capitals for proper nouns only:

- | | |
|------------------|-----------------|
| 1. derisive. | 13. legume. |
| 2. Danish. | 14. lyceum. |
| 3. culinary. | 15. obesity. |
| 4. emaciate. | 16. Calcutta. |
| 5. neighbor. | 17. obligatory. |
| 6. executive. | 18. pathos. |
| 7. exhale. | 19. spheroid. |
| 8. Brooklyn. | 20. trapezium. |
| 9. fulsome. | 21. recipient. |
| 10. homogeneous. | 22. Ararat. |
| 11. Yosemite. | 23. trivial. |
| 12. inventory. | 24. valise. |
| 25. verdigris. | |

American History.

1. a. What Europeans are supposed to have discovered America about the year 1,000? b. What parts of the continent were probably explored by these voyagers?
2. The settlements of New Amsterdam and of Fort Orange were made about the same time. a. What was the object of the Dutch in going at once so far up the river as Albany for a settlement? b. Mention a locality other than Manhattan Island or the Hudson Valley to which the early Dutch settlers went.
3. a. By what authority was Washington made commander-in-chief of the American army? b. What previous military experience had he?
4. a. What was the principal battle of the first year of the Revolution? b. What was the last important military operation of the war?
5. a. Who was the first president that was defeated for re-election? b. Name two other presidents, candidates of their parties for re-election, who were defeated.
6. a. What is the meaning of the expression, "To the victors belong the

spoils," as used in American History? b. Who was the first president to put this motto into practice?

7. What important position was held, or what special service was performed by each of the following persons during the civil war: (a) William H. Seward; (b) Edwin D. Morgan; (c) Alexander H. Stephens; (d) John Ericsson; (e) Jefferson Davis? Select for answers any three of the five mentioned names.

8. During Grant's administration a great fire occurred, an important railroad was finished, and a world's fair was held. (a) In what city was the fire? (b) What railroad is referred to? (c) By what name is the world's fair known?

9. Of the following statesmen of New York, a. Alexander Hamilton, b. George Clinton, c. John Jay, d. Silas Wright, e. Martin Van Buren, what was the most important national office held by each? (Select for answer any two of the above mentioned names).

10. Classify under the heads of a. statesmen, b. generals, c. writers, the following Americans: Anthony Wayne, Washington Irving, George Bancroft, Philip Sheridan, Samuel J. Tilden.

ANSWERS.

1. a. The Northmen. b. The islands of Iceland and Greenland, and the northern Atlantic coast.
2. a. To secure the Indian trade from the Mohawk Valley. b. Long Island, New Jersey, Connecticut.
3. a. By the continental congress. b. He commanded colonial troops and acted as aid-de-camp to General Braddock in the French and Indian War, in the operations about Fort Duquesne.
4. a. The battle of Bunker Hill. b. The siege of Yorktown.
5. a. John Adams. b. John Quincy Adams, Martin Van Buren, Grover Cleveland, Benjamin Harrison.
6. a. That the party in power shall put out of office those who belong to other parties, and fill the places with its own partisans. b. Andrew Jackson.
7. a. Secretary of State of the United States, b. Governor of New York. c. Vice-President of the Confederate States. d. The invention of the Monitor. e. President of the Confederate States.
8. a. Chicago; (a large fire occurred also in Boston). b. The Central and Union Pacific. c. The Centennial Exposition.

9. a. Secretary of the treasury. b. Vice-President. c. Chief Justice. d. United States Senator. e. President.

10. a. Tilden. b. Wayne and Sheridan. c. Irving and Bancroft.

Arithmetic.

1. Reduce $\frac{3}{4}$ a. to a fraction whose denominator is 48; b. to a fraction whose numerator is 63; c. to the form of per cent.

2. Divide 52 rd. 4 yd. 1 ft. 6 in. by 9.

3. In order to carpet a room 12 ft. by 13 ft. 6 in. with Brussels carpet ($\frac{1}{4}$ of a yard wide) to the best advantage, a. how many breadths will be required; b. how many yards?

4. 23 lb. 15 oz. is what part of 62 lb 3.8 oz.?

5. A man sold his house and lot for \$2,294.50, and gained thereby $\frac{1}{5}$ of what it cost him. Find the cost.

6. When the Empire State express was running at the rate of 112 miles an hour, what was its rate of speed in feet per second?

7. Find the square root of $\frac{1}{9}$, correct to three decimal places.

8. The proceeds of a three-months' note, made and discounted at a Utica, N. Y., bank to-day, at 6% per annum, were \$640.25. Required, the face of the note.

9. A note for \$150 and interest, made Jan. 2, 1895, in Buffalo, N. Y., has indorsed upon it a payment of \$80, made April 4, 1895. How much remains due June 5, 1895?

10. A commission merchant sold potatoes to the amount of \$582.60. After paying \$51.25 for freight and storage and deducting his commission of 5%, how much should he remit to the consignor?

ANSWERS.

1. a. $\frac{3}{4}$. b. $\frac{63}{48}$. c. 56%. 2. 5rd. 4 yd. 2 ft. 4 in.

3. a. 6 breadths. b. 24 yds. 4. $\frac{1}{18}$. 5. \$1,412. 6. 164 $\frac{1}{2}$ feet.

7. .612. 8. \$650. 9. \$73.04. 10. \$502.22.

Civil Government.

1. State one danger to city governments from large masses of ignorant voters.

2. Upon what principle are all property owners taxed for the support of the schools, regardless of whether they are patrons or not.

3. Why is a representative form of government necessary in a county and not in a town?

4. State two duties of the sheriff.

5. How is Congress restricted by the Constitution with reference to bills for raising revenue?

6. By what authority are new States admitted to the Union?

7. By what rules is each branch of the Legislature governed?

8. a. In what officer is the executive power of a city vested? b. In what body is the legislative power of a city vested?

9. The United States Senate possesses three powers not possessed by the House of Representatives. Name two of them.

10. By whom, and for how long a term are a. United States Senators elected; b. Members of the United States House of Representatives?

ANSWERS.

1. Answers will differ.

2. Upon the principle that the value and safety of property depends upon the relative intelligence of communities.

3. The county covers a broader territory than the town; hence the impracticability of assembling all the voters of a county as in a town meeting.

4. He is the executive officer of the county. He executes civil and criminal processes throughout the county. He has charge of the jail and prisoners. He attends courts and keeps the peace. He must be present by himself or undersheriff at the drawing of jurors, and must cause them to be legally summoned.

5. All revenue bills must originate in the House of Representatives.

6. By Congress.

7. By rules of its own making.

8. (a) The Mayor. (b) In the common council.

9. To ratify treaties, try impeachments, and reject or confirm nominations made by the President.

10. (a) By the several State legislatures, for six years. (b) By the electors of a congressional district, for two years.

Current Topics.

Each of the following questions has 10 credits assigned to it.

1. (a) What American statesman died on the morning of the 28th ult.? (b) What position did he hold at the time of his death?

2. Give a brief history of his life.

3. What important decision was recently handed down by the United States Supreme Court?

4. What effect will this decision have upon the revenues of our government?

5. What is the principal question that is under discussion at the present time in national politics?

7. What State officers are to be elected at the general election next November?

ANSWERS.

1. (a) Walter Q. Gresham. (b) Secretary of State in Mr. Cleveland's Cabinet.

2. Answers will differ.

3. That the income tax is unconstitutional.

4. It will reduce the revenue of our government.

5. The coinage question.

7. Judge of the Court of Appeals, Secretary of State, State Treasurer, Comptroller, Attorney-General, State Engineer and Surveyor.

Geography.

1. A ship is in latitude 40° north, and longitude 50° west. In what water is it?

2. Why is the climate of Western Europe warmer than that of Eastern Europe in the same latitude?

3. Mention three physical features that have made it possible for the United States to become one of the greatest nations of the earth?

4. Into what sea does (a) the Danube River empty; (b) the Volga; (c) the Rhone?

5. What waters would be traversed on the shortest all-water route from Cairo to Calcutta?

6. In what country and on what water is each of the following cities: (a) Rotterdam; (b) Bombay; (c) Toronto; (d) Cape Town; (e) Alexandria?

7. What waters embrace the peninsula of Spain and Portugal?

8. What beasts of burden are used by (a) the Laplanders, (b) the Esquimaux, (c) travelers crossing the Sahara?

9. What two river systems drain the Catskill Mountain region?

10. What products are exported largely from the region of which New Orleans is the chief distributing port?

ANSWERS.

1. In the Atlantic Ocean.

2. It is made warmer by the modifying influence of the Gulf Stream.

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3. Temperate climate; extensive territory and fertile soil; excellent rivers, lakes, and harbors; valuable mineral resources.

4. (a) The Black Sea. (b) The Caspian. (c) The Mediterranean.

5. The Nile River, Mediterranean Sea, Suez Canal, Red Sea, Strait of Bed-el-Mandeb, Gulf of Aden, Indian Ocean, Bay of Bengal.

6. (a) In Holland, at one of the mouths of the Rhine. (b) In India, on the Arabian Sea. (c) In Canada, on Lake Ontario. (d) In Cape Colony on the Atlantic. (e) In Egypt, at the mouth of the Nile.

7. The Bay of Biscay, Atlantic Ocean, Strait of Gibraltar, Mediterranean Sea.

8. (a) Reindeers. (b) Dogs. (c) Camels.

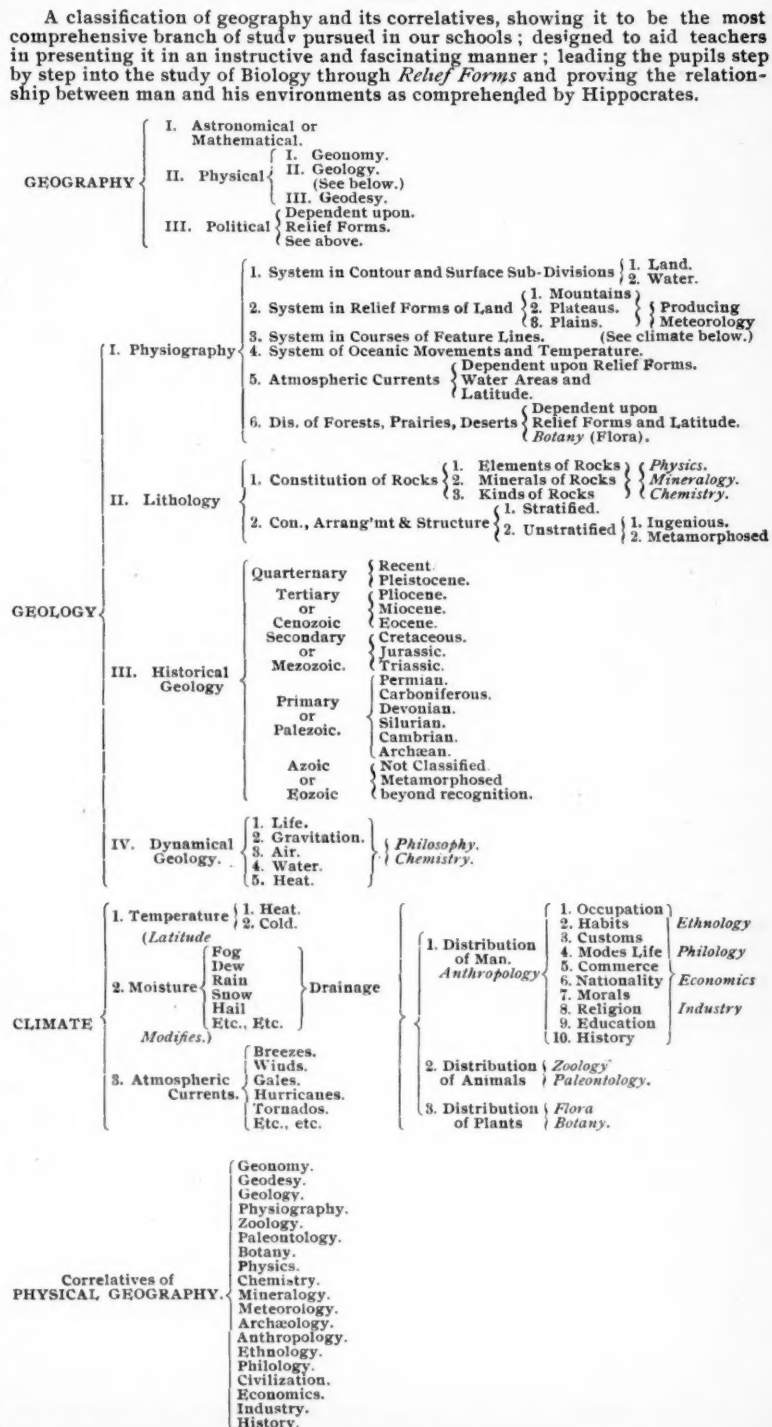
9. The Hudson and the Delaware.

10. Cotton, sugar, molasses, grain, tobacco, rice.

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GEOGRAPHY AND ITS CORRELATIVES.

By F. J. ALBRECHT, Sec'y. Central School Supply House, Chicago, Ill.





Primary.

WHAT THE LITTLE PRONOUN TOLD ME.

I'M a little pronoun. My names are who, whose and whom.

When I do something, people call me *who*. When I own something, people call me *whose*. When somebody does something to me, I am called *whom*.

If you see me you may be pretty sure there is a noun somewhere around.

I'm not just a common pronoun; I'm a relative pronoun. All pronouns cannot have people with them constantly, as I can.

Sometimes I'd like to be by myself, as my cousin I (who is a personal pronoun) can be.

I go with a very select set of nouns. They all tell about people, not mere things.

Sometimes ignorant people put me with those ordinary nouns that mean only things. But it is better not to do so, as I belong to persons only, not to things.

To think of it! I can go even with those very stuck-up proper nouns.

The noun I go with is called my antecedent.

I would give you a few sentences, and see if you could find me in them, but it is much better to let you make some for yourselves.—*St. Nicholas*.

ABOUT CLOTH.

From what things are different kinds of cloth made? (Wool, cotton, silk, flax, etc.)

What kinds of cloth are made from *wool*? (Dress goods, goods for gentlemen's clothes, hosiery, flannel, blankets, carpets, etc.)

What kinds of cloth are made from *cotton*? (Calico, print, gingham, etc.)

What kinds of goods are made from *silk*? (Silk goods, velvet, satin, etc.)

What kinds of cloths are made from *flax*? (Linen, damask.)

Which of these make the warmest goods?

Which the softest?

Which the lightest?

Which the most durable?

Which the richest?

Which the most beautiful?

Which is least liable to burn?

Which tears most easily?

Which is the toughest?

Tale of a Bad Little Boy.

THERE was once a pretty urchin—

Hair and eyes as black as jet—

But he squandered all his pennies

On the nasty cigarette.

Yea, he smoked them by the dozen,

And he smoked them by the score,

Till his face was sadly altered;

But he only smoked the more.

And his father stormed and threatened,

And his mother pleaded; yet

He just shook his head and fumbled

For another cigarette.

And his eyes grew dim and misty,

And his features, once so sweet,

Changed so, people failed to know him

When they met him on the street.

Till at last he grew the color

Of a walnut overripe;

And his mother couldn't tell him

From a corn-cob pipe.

—*S. Q. Lapius in Chicago Inter-Ocean*.

Hard to Please.

A boy sits in a chair on platform holding a large slate and pencil and looking at it occasionally as if talking to himself.

"I'm glad I have a good-sized slate, With lots of room to calculate.

Bring on your sums! I'm ready now.

My slate is clean; and I know how.

But don't you ask me to *subtract*,

I like to have my slate well packed;

And only two long rows, you know,

Make such a miserable show;

And, please, don't bring me sums to *add*;

Well, *multiplying's* just as bad;

And, say! I'd rather not *divide*—

Bring me something I haven't tried!"

—*Selected*.

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Grammar Grades.

Use of Will and Would, and Shall and Should.

LESSON IN PRONUNCIATION.

THE following words are commonly mispronounced. A few minutes spent on the list at the institute will do much to fix the right pronunciation of these words among teachers and through them among the people:

research,	mustache,
allies,	resources,
romance,	inquiry,
discourse,	illustrate,
address,	exponent,
coquetry,	enervate,
clandestine,	biturcate,
abdomen,	accented,
acclimated,	pyramidal,
consummate,	respiratory.

All the above should be accented on the second syllable.

In the following list accent the first syllable:

extant,	Genoa,
construe,	contrary,
levee,	impious,
benzine,	cerebrum,
exquisite,	Uranus,
gondola,	peremptory,
lamentable,	disputable,
obligatory.	Parnell,
area,	exigency.

Although contrary to the general law of English accentuation, a few words of more than two syllables are accented on the last as:

avalanche,	opportune,
etiquette,	magazine,
advertise,	antepenult.

Besides the grosser errors of misplaced accent, there are groups of words which the careless and ignorant habitually mispronounce, such as *literatoor*, *constitootion*, *institoot*, *toob*, *Toosday*. An institute conductor who will take the pains to arrange some lists of common errors in pronunciation and drill his classes on the right forms, will find a rich field for useful work. Have all the above words marked diacritically.—*Selected*.

LIFE appears to me too short to be spent in nursing animosity or registering wrongs.—*Bronte*.

A LESSON IN FRACTIONS.

1. How many inches are there in $\frac{1}{2}$ of a foot? in $\frac{2}{3}$ of a foot? in $\frac{3}{4}$ of a foot? in $\frac{4}{5}$ of a foot? in $\frac{1}{2}$ of a foot? in $\frac{3}{4}$ of a foot? in $\frac{2}{3}$ of a foot?
2. How many minutes are there in $\frac{1}{2}$ of an hour? in $\frac{1}{3}$ of an hour? in $\frac{2}{3}$ of an hour? in $\frac{3}{4}$ of an hour? in $\frac{1}{2}$ of an hour?
3. Four-sixths of an hour is equal to how many thirds of an hour?
4. If a man works six days each week, what part of a week's wages will he earn in 1 day? in 2 days? in 3 days? in 5 days? in 4 days?
5. If four pies are divided equally among some boys so that each boy receives $\frac{1}{4}$ of a pie, how many boys are there?
6. By what number do you divide 12 to get $\frac{1}{2}$ of 12.
7. What is $\frac{1}{2}$ of 18? 24? 30? 42? 54? 60?
8. 8 is $\frac{1}{2}$ of what number? 9 is $\frac{1}{3}$ of what number?
9. How many square feet are there in $\frac{1}{2}$ of a mat 9 feet long and 4 feet wide?
10. How many square inches are there in $\frac{1}{2}$ of a board 12 inches long and 3 inches wide?
11. If $\frac{1}{2}$ of a pound of rice costs 2 cents, what is the cost of 1 pound? of 6 pounds?
12. If you divide $\frac{1}{2}$ of an apple into two equal parts, what part of the whole apple will each of these parts be? What then is $\frac{1}{2}$ of $\frac{1}{2}$? $\frac{1}{2} \times \frac{1}{2}$?
13. If you divide $\frac{1}{2}$ of an apple into 3 equal parts, what part of the whole apple will each of these two parts be? What then is $\frac{1}{2}$ of $\frac{1}{3}$? $\frac{1}{2} \times \frac{1}{3}$?
14. How many sixths in $\frac{1}{2}$? in $\frac{1}{3}$? in $\frac{1}{4}$? in $\frac{1}{5}$? in $\frac{1}{6}$? in $\frac{1}{7}$? in $\frac{1}{8}$? in $\frac{1}{9}$? in $\frac{1}{10}$? in $\frac{1}{11}$? in $\frac{1}{12}$? in $\frac{1}{13}$? in $\frac{1}{14}$? in $\frac{1}{15}$? in $\frac{1}{16}$? in $\frac{1}{17}$? in $\frac{1}{18}$? in $\frac{1}{19}$? in $\frac{1}{20}$? in $\frac{1}{21}$? in $\frac{1}{22}$? in $\frac{1}{23}$? in $\frac{1}{24}$? in $\frac{1}{25}$? in $\frac{1}{26}$? in $\frac{1}{27}$? in $\frac{1}{28}$? in $\frac{1}{29}$? in $\frac{1}{30}$? in $\frac{1}{31}$? in $\frac{1}{32}$? in $\frac{1}{33}$? in $\frac{1}{34}$? in $\frac{1}{35}$? in $\frac{1}{36}$? in $\frac{1}{37}$? in $\frac{1}{38}$? in $\frac{1}{39}$? in $\frac{1}{40}$? in $\frac{1}{41}$? in $\frac{1}{42}$? in $\frac{1}{43}$? in $\frac{1}{44}$? in $\frac{1}{45}$? in $\frac{1}{46}$? in $\frac{1}{47}$? in $\frac{1}{48}$? in $\frac{1}{49}$? in $\frac{1}{50}$? in $\frac{1}{51}$? in $\frac{1}{52}$? in $\frac{1}{53}$? in $\frac{1}{54}$? in $\frac{1}{55}$? in $\frac{1}{56}$? in $\frac{1}{57}$? in $\frac{1}{58}$? in $\frac{1}{59}$? in $\frac{1}{60}$? in $\frac{1}{61}$? in $\frac{1}{62}$? in $\frac{1}{63}$? in $\frac{1}{64}$? in $\frac{1}{65}$? in $\frac{1}{66}$? in $\frac{1}{67}$? in $\frac{1}{68}$? in $\frac{1}{69}$? in $\frac{1}{70}$? in $\frac{1}{71}$? in $\frac{1}{72}$? in $\frac{1}{73}$? in $\frac{1}{74}$? in $\frac{1}{75}$? in $\frac{1}{76}$? in $\frac{1}{77}$? in $\frac{1}{78}$? in $\frac{1}{79}$? in $\frac{1}{80}$? in $\frac{1}{81}$? in $\frac{1}{82}$? in $\frac{1}{83}$? in $\frac{1}{84}$? in $\frac{1}{85}$? in $\frac{1}{86}$? in $\frac{1}{87}$? in $\frac{1}{88}$? in $\frac{1}{89}$? in $\frac{1}{90}$? in $\frac{1}{91}$? in $\frac{1}{92}$? in $\frac{1}{93}$? in $\frac{1}{94}$? in $\frac{1}{95}$? in $\frac{1}{96}$? in $\frac{1}{97}$? in $\frac{1}{98}$? in $\frac{1}{99}$? in $\frac{1}{100}$?

—From *Wentworth's Mental Arithmetic*. Ginn & Co., Boston, Mass.

A LESSON ON ANIMALS.

BY JOHN GOFF, COLLEGIATE INSTITUTE,
JACKSON, KY.

1. Why do we speak of judges as wearing the judicial ermine?
2. What animals and birds are found alike in the coldest and hottest parts of the earth?
3. What animal is sometimes spoken of as the camel of South America.



SCENE ON THE DENVER & GULF RY., COLO.

4. What peculiarity about the way a frog hatches its eggs?
5. What giant snake of South America? of India?
6. Name some animals which were unknown to men prior to the discovery of America?
7. What peculiarity about the fish of the Mammoth Cave?
8. What oceanic monster is called "the man-eater?"
9. What peculiar bird with a military name lives in tropical India?
10. In what country does a small animal called the immigrant live?
11. What is the history of the English sparrow?
12. How long have swans been known to live? Elephants? Horses? Cows?
13. What enormous animals of America have become extinct?
14. From what animal is "sperm oil" obtained?
15. What bird usually forms a unique part of Thanksgiving Day exercises?
16. What king made a feast of the brains of singing birds?
17. What celebrated queen died from the bite of an asp.
18. What prophet was cast into a lion's den?
19. Name an animal that crawls? one that hops? one that sails?
20. Why does a dog generally turn

around a number of times before lying down on the grass?

21. What sea bird never rests from its flight except upon the crest of a wave?

22. What little South American animal defends itself against enemies by the sharp quills on its back?

23. What animals kill their prey by means of an electric shock?

24. Name the poisonous snakes of the United States.

25. What animals are said to have the power of charming their prey?

26. What birds have been considered by some as very wise? What reptiles?

27. What poisonous reptile kills by a sting rather than a bite?

28. What small reptile of this country loses its tail when struck at?

29. What small animal is considered a great weather prophet?

30. What animal's bones are used by some to foretell weather conditions?

31. What is the national bird of the United States? Reptile?

32. What animals when running go toward the wind?

33. What animal is called a fly-up-the-creek?

34. Name three birds which are sometimes spoken of as political birds in the United States.

35. What State is sometimes called the "Pelican State?" "Oyster State?" "Clam State?"

36. What country is called the "Land of Bull-fights?" "Land of Hides, Horns and Tallow?"

37. What African animal is noted for the beauty of its eyes?

38. What animal lives above the snow line among the Alps?

39. In what country are sheep noted for their large tails? Large horns?

40. What is the most rapid animal of flight? Most fleet of foot?

41. Tell the story of the "Hare and Tortoise;" "Fox and Grapes;" "Fowler and the Stork."

42. What wood bird always bores a round hole?

43. What wild bird makes a peculiar noise by drumming on logs?

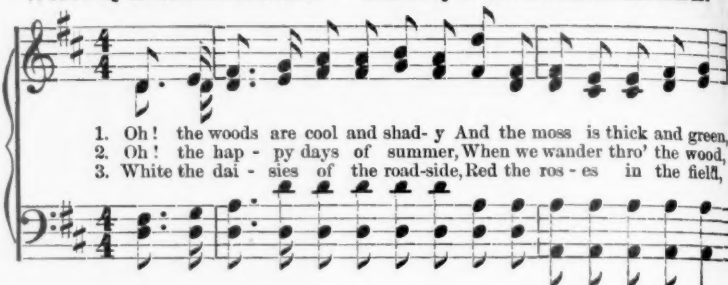
44. What large bird of this country is noiseless in its flight?

45. Name an animal of Egypt which is a great scavenger; of India; of United States.

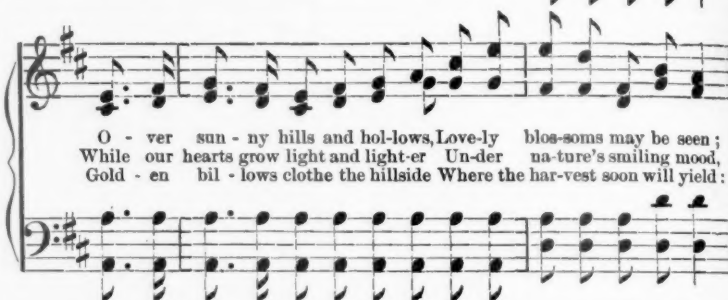
46. What is said to be the most cunning of animals?

SONG OF SUMMER.

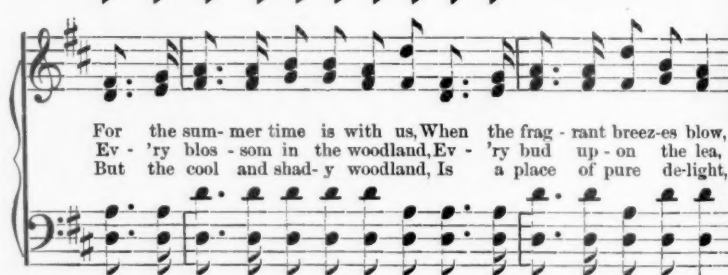
Words by KATHIE MOORE. Music by J. H. KURZENKNABE.



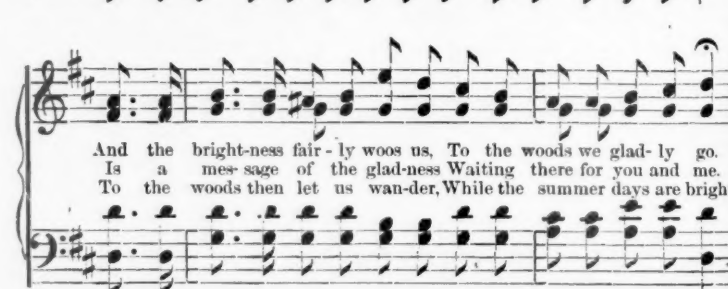
1. Oh! the woods are cool and shad-y And the moss is thick and green,
2. Oh! the hap-py days of summer, When we wander thro' the wood,
3. White the dai-sies of the road-side, Red the ros-es in the field,



O-ver sun-ny hills and hol-lows, Love-ly blos-soms may be seen;
While our hearts grow light and light-er Un-der na-ture's smiling mood,
Gold-en bil-lows clothe the hillside Where the har-vest soon will yield:



For the sum-mer time is with us, When the frag-rant breez-es blow,
Ev-'ry blos-som in the woodland, Ev-'ry bud up-on the lea,
But the cool and shad-y woodland, Is a place of pure de-light,



And the bright-ness fair-ly woos us, To the woods we glad-ly go.
Is a mes-sage of the glad-ness Waiting there for you and me.
To the woods then let us wan-der, While the summer days are bright.

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From the Fountain Song Book, by permission of A. Flanagan, Publisher, Chicago.

47. What birds deposit their eggs in the sand? Reptiles?

48. Describe the manner in which five different kinds of birds of this country build their nests.—*The Southern School.*

THE end of life is to be like unto God, and the soul following God will be like unto Him.—*Socrates.*

THE TWENTY-FOUR PRESIDENTS.

THE following easily learned rhymes are the best we have yet seen for fixing in the mind in their order the names of our country's presidents:

Washington first of the presidents stands,
Next placid John Adams attention commands,
Tom Jefferson's third on the glorious score

Oh! we love the mer - ry sum - - - mer,
CHORUS.



And with hap - - - py hearts we go:



To the woods so cool and shad - - y,



Where the sweet wild blos - soms grow.



And square Jimmy Madison counts number four.

Fifth on the record is plain James Mouroe,
And John Quincy Adams is sixth, don't you know?

Next Jackson and Martin Van Buren, true blue,
And Harrison ninth, known as Tippecanoe.

Next Tyler, the first of the Vices to rise,
Then Polk and then Taylor, the second who dies;
Next Fillmore, a Vice, takes the President's place,
And small Franklin Pierce is fourteenth in the race.

Fifteenth is Buchanan, and following him
The great name of Lincoln makes all others dim;

Next to Johnson comes Grant, with the laurel and bays,
And next after Grant then comes Rutherford Hayes.

Next Garfield, then Arthur, then Cleveland, the fat,
Next Harrison wearing his grandfather's hat,
Adroit little Ben, twenty-third in the train,
And last on the list, behold Cleveland again.

—Selected.

That Boy.

A WHOLE BOOK ON PEDAGOGY.

Hard to drive but easy to win,
Quick to see where the fun comes in,
Ways of his own his teacher calls sin,
Because she is not a boy lover.

In his play or his temper she often has heard,
Something that sounds like a newly-coined word;
But his heart is as clear as the note of a bird,
As she could if she would, discover.

He brings his own truck to use and to show;
"What's a fellow to do all the day, let me know,
When his books are as a dull as a rusty hoe,
And his teacher is ten times duller?"

The dull teacher goes to John's mother.
"Now, how do you manage with John I pray?"
"Why I know John; do you know him, say?"
Asks the laughing little mother.

His mother says—and she ought to know—
That his pranks are only the overflow
Of a healthful boy-life, as his manhood will show.
So she can excuse and cover.

John himself says—and he ought to know—
He can't tell for the life of him why he acts so.
And he draws down his face with a ludicrous woe,
As if dimple and laugh he could smother.

Common sense says—and her words sound true—
"Find out just the thing that the boy likes to do,
He'll be king of all these, and he may be of you,
And compel you to be his lover."

But all the psychologies under the sun,
All the ways by which wise Pestalozzi won,
Are worth nothing to you if you can't find out John,
And make him your loyal lover.

A. C. SCAMWELL, in *Journal of Educat'n*

LIFE is only so far valuable as it serves for the religious education of the heart.—*Mde. de Stael.*

HEADACHE cured in 20 minutes by Dr. Miles' PAIN PILLS. "One cent a dose." At druggists.

PRINCIPLES UNDERLYING ART OF QUESTIONING.

I. Questions must be adapted to the capacity of the pupil.

1. What is it? for children.
2. How is it? for boys and girls.
3. Why is it? for youth.

II. Questioning is better than telling.

1. The learner is led to discover for himself.
2. The learner is trained to do independent work.
3. The learner is incited to greater mental activity.

III. Questioning is a great mental force.

1. It calls for effort.
2. It awakens thought and stimulates activity.
3. It leads to close observation.
4. It trains pupils to analyze and synthesize.

IV. Questions should follow each other in a logical order.

1. The questions must have a well-defined object in view.
2. The question must logically lead to it.

V. Questioning too far is injurious.

1. It confuses and bewilders.
2. It fosters a dependence on the questions.

GENERAL STATEMENT PERTAINING TO THE ART OF QUESTIONING.

I. Questioning implies two parties.

1. The teacher, who understands, and is prepared to assist the learner.
2. The learner, who does not understand, and who needs assistance.

II. The efficient instructor is master of the art of questioning.

1. He constructs his own questions.
2. He adapts his questions (a) to the learner, (b) to the subject.

III. As to the subject matter the question is:

1. What is this or that? or,
2. How is this or that? or,
3. Why is this or that thus or so? or,
4. Whence is this or that?

IV. The teacher must remember that the pupil gains a knowledge:

1. Of the objective world by sense perception.
2. Of the subjective world by conscious perception.
3. Of the relation world by thought and imagination.

4. And that all knowledge is reproduced by a well-trained memory.

V. When the learner is unable to advance, he may with propriety ask for aid.

THE PURPOSE OF QUESTIONING.

1. To properly direct the pupil's effort.
2. To incite the learner to think for himself.
3. To lead the pupil to discover truth for himself.
4. To arouse the dull.
5. To startle the inattentive.
6. To bring out the important details of the subject.
7. To test correctness.
8. To correct errors.

QUESTIONING IN CLASS WORK.

1. The question in general should be directed to the entire class.
2. A moment should be given for each pupil to think and indicate his readiness to answer.
3. Call on any member of the class for the answer in part or in entirety.
4. Hold each member of the class responsible for each answer.
5. Listen with patience and attention to each answer.

QUESTIONS FOR WRITTEN EXAMINATION.

1. Questions should involve principles and applications of principles.
2. Questions should require definite answers.
3. Questions should involve the pupil's general knowledge of the subject.
4. Avoid technical questions and puzzles.
5. Be liberal and just in marking answers.

OBJECTIONABLE QUESTIONS.

1. That suggest the answer (a) by language, (b) by emphasis, (c) by inflection, (d) by expression.
2. That quotes part of the answer.
3. Of alternate form, as, has a triangle three or four sides?
4. That indicates the answer, as, did Thomas Jefferson write the Declaration of Independence?
5. Leading questions—Does a square have four sides and four equal angles? Yes.

DON'T

1. Ask too much.
2. Use silly or pointless questions.
3. Use kill-time questions.
4. Use pert questions, displaying your smartness.

5. Use pedantic questions, displaying your erudition.

6. Use haphazard questions.—*Kosciusko Co. (Ind.) Manual for District Schools.*

Put de Cookies on de Lower Shelf.

A MINISTER from the North one time attempted to preach a learned discourse to the colored people of the South. He began using large words and long sentences, but he soon noticed that he was not getting the attention of his hearers, and changed to more simple language. At this one brother said, "Now we can understand the gospel." Taking this as a key, he changed to *very* simple language, giving them the pure word of God, when a good sister shouted: "Bress de Lawd! he's goin' ter put de cookies on de lower shelf, where de chillun can all reach 'em."

When we listened to the discussions at Denver, and heard so much about Correlation, Concentration, Interrelation, Co-ordination, etc., and saw how little the average teacher seemed to care for such things, we thought, "Gentlemen, you had better put the cookies on the lower shelf, so we can all get some."

At some of the institutes we have visited we find Dr. Wordy pouring forth his discourse on Psychology and Psychological principles, ringing the changes in Apperception, Concept, etc., the teachers sitting very quietly, looking wise, but not getting more than a crumb to take home with them, because all the cookies are away upon the top shelf. It is all right to get the teachers to look up and reach up, but we do not want them to strain their eyes and arms reaching for things that are clear out of reach. Let us be practical. R.

At the present time \$1,100,000,000 of our national circulation of both paper and silver money rests upon a redemption fund of only \$150,000,000 of gold. We must redeem on demand all forms of our variegated currency in gold coin. Is this a sound foundation for a sound currency? Is it not desirable to legislate to increase that reserve by some hundreds of millions of dollars? We think so.

LESSONS ON THE AUTHOR, HENRY W. LONGFELLOW.

E. W. BARRETT, MILFORD, MASS.

Birth.....	{ time, place.
Parents.....	{ of Puritan descent. John Alden, an ancestor, father, a lawyer. people of wealth and culture, of good social standing. lived in city, think of Whittier's early home and position.
Education.....	{ every opportunity, had private teachers, college graduate, entered college at 14, Hawthorne, a classmate, studied law, traveled and studied abroad, visited many European countries, a good student, careful and diligent, took high rank as a scholar, compare with { Bryant, Whittier, etc.
Occupations.....	{ wrote poetry at an early age, contributed to many periodicals, taught modern languages at Bowdoin. professor at Harvard for 18 years, devoted to literary work.
Character	{ always cordial, earnest and sincere, Bryant more serious, studious; true poetic nature, amiable and refined, kind to children, gentle and tender, affectionate, frank and candid, much individuality, fond of home.
Personal Appearance.....	{ height—medium, forehead—broad and full; eyes—blue, deep set, brows—overhanging, Hair—white and long, expression { cheerful and hopeful, winning and attractive, benignant, compare with others.
Style.....	{ simple, melodious, always careful and pure, never satirical, not much humor, artistic, skillful, not labored, spontaneous, from the heart, subjects { common place; familiar, simple sentiments, human emotions and affections; expression original, understood by all, fond of simile, used many allusions.
Works.....	{ prose { Outre-Mer, Hyperion, Kavanagh, not as successful as his poems. long poems { Evangeline, Hiawatha, Psalm of Life, Ship of State, best known { The Golden Legend, Excelsior, Evangeline. poetry { lyrics and songs, ballads and sonnets, subjects { patriotism, slavery, places.

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Other interesting subjects: "The Craigie House," "The Children's Arm Chair," "The Birthday Celebration," etc.

Learn a few select poems and review them frequently. What makes the "Psalm of Life" so popular? Longfellow was not a philosopher. Was he an idealist? Did he draw many of his subjects from study and research? Do you find anything bitter or ironical in his works?

We can make much of the lessons drawn from Longfellow's life. Biographical study serves its purpose when the inner lives of men, their methods, moods and virtues, are revealed.

Longfellow's heart went out to little children. This is why they loved him. In innocence and simplicity he was their equal. The sweetness of life and light which he possessed, was shared with them. He talked to them and not of them. When he spoke it was as their companion.

Their own thoughts, hopes and childish aspirations came again, expressed in simple words and phrases, but with such wondrous power that their eyes instinctively turned heavenward.

His life was one harmonious whole—a living poem—honest, true to itself, entertaining naught of falsehood or pretension. Catholic in taste, universal in sympathy, interested in all mankind, leaning to neither caste nor class, he stands for humanity.

The world is full of love and beauty. This he pointed out to us. He was hopeful. He has made us hopeful.—*Education.*

MULTIPLICATION AND DIVISION OF FRACTIONS.

BY COM. B. F. BROWN, ROCK
PORT, MO.

LET us assume :

The sign \times = multiplied by.

The sign \div = divided by.

The expression (= ?) means equals what.

I. MULTIPLICATION.

Required to multiply a fraction by an integer.

Problem.

$$\frac{3}{8} \times 8 = ?$$

Solution.

$$3 \times 8 = 24.$$

My multiplicand 3, is five times too great, hence my product 24, is 5 times too great.

PRINCIPLE I. If we increase the multiplicand, we increase the product in the same ratio. Therefore, to obtain the true result, I must take $\frac{1}{5}$ of 24, or 4 $\frac{4}{5}$.

$$\frac{3}{8} \times 8 = 4\frac{4}{5}.$$

Required to multiply an integer by a fraction :

Problem.

$$8 \times \frac{5}{7} = ?$$

Solution.

$$8 \times 5 = 40.$$

My multiplier, is 7 times too great, hence my product 40, is 7 times too great. To obtain the true result, I must take $\frac{1}{7}$ of 40, or 5 $\frac{5}{7}$.

$$8 \times \frac{5}{7} = 5\frac{5}{7}.$$

PRINCIPLE II. If we increase the multiplier, the product is increased.

Required to multiply a fraction by a fraction :

Problem.

$$\frac{3}{4} \times \frac{5}{7} = ?$$

Solution.

$$3 \times 5 = 15.$$

My multiplicand 3, is 4 times too great, hence my product 15, is likewise.

PRINCIPLE I.—To obtain the true result, I must take $\frac{1}{4}$ of 15, or $3\frac{3}{4}$. But my multiplier 5, is 7 times too great, hence my product $3\frac{3}{4}$, is likewise.

PRINCIPLE II.—To obtain the true result, I must take $\frac{1}{7}$ of $3\frac{3}{4}$ or $\frac{15}{14}$.

$$\frac{3}{4} \times \frac{5}{7} = \frac{15}{14}.$$

II. DIVISION.

Required to divide an integer by a fraction :

Problem.

$$8 \div \frac{3}{4} = ?$$

Solution.

$$8 \div \frac{3}{4} = 10\frac{2}{3}.$$

My divisor 2, is 7 times too great, hence my quotient 4, is 7 times too small.

PRINCIPLE III.—If we increase the divisor we diminish the quotient. Hence, to obtain the true result, I must take 7 times 4, or 28.

Required to divide a fraction by an integer :

Problem.

$$\frac{3}{4} \div 6 = ?$$

Solution.

$$3 \div 6 = \frac{1}{2}, \text{ or } \frac{1}{2}.$$

My dividend 3, is 4 times too great, hence my quotient $\frac{1}{2}$ is likewise.

PRINCIPLE IV.—If we increase the dividend, we increase the quotient. Therefore, to obtain the true result, I must take $\frac{1}{4}$ of $\frac{1}{2}$ or $\frac{1}{8}$.

$$\frac{3}{4} \div 6 = \frac{1}{8}.$$

Required to divide a fraction by a fraction :

Problem.

$$\frac{3}{4} \div \frac{5}{7} = ?$$

Solution.

$$3 \div 5 = \frac{3}{5}.$$

My divisor 5, is 7 times too great, hence my quotient $\frac{3}{5}$, is 7 times too small.

PRINCIPLE III.—To obtain the true result I must take $\frac{1}{7}$, 7 times, or $\frac{3}{7}$. But my dividend 3, is 4 times too great, hence $\frac{3}{7}$ is likewise.

PRINCIPLE IV.—To obtain the true result, I must take $\frac{1}{4}$ of $\frac{3}{7}$ or $\frac{3}{28} = 1\frac{1}{20}$.

$$\frac{3}{4} \div \frac{5}{7} = \frac{3}{28} \text{ or } 1\frac{1}{20}.$$

INFERENCE.

If this method is logically and judiciously presented, the pupil is stimulated to *think*, (which should be the aim of any method), thereby enabling him to make his own rules and discover all the "short cuts"

FURTHER REMARKS.

The reason many pupils fail to understand the principles involved in multiplication and division of fractions is because they have not been taught the *principles* preceding these subjects. They have been taught to commit rules and definitions and memorize *form* without the *concept*. What is the result? Inattention, indifference, insubordination, *parrots*, *mental stagnation*. O my fellow teachers, wake up! wake up! Teach the pupil to think. Lead him to make original discoveries and intelligent inferences. *This is rational teaching.*

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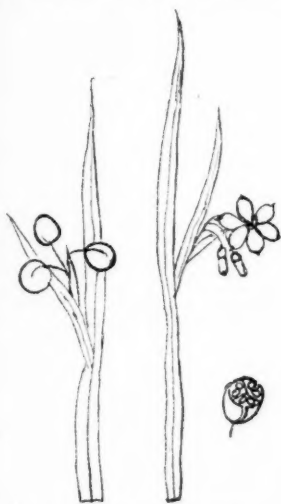
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BLUE-EYED GRASS.

BY BESSIE L. PUTNAM.

FEW admirers of flowers have overlooked the pretty little blue-eyed grass, so common in moist meadows. Its parallel-veined leaves at once place it among the monocotyledons, while their form and manner of growth remind one of a diminutive iris or flower-de-luce. It will be noticed that while ordinary leaves present by their position a distinct upper and lower surface, these grow almost perpendicular, and the sun's rays fall alike on both sides. Each overlaps the one next younger, and from this fancied resemblance to a man on horseback such leaves are



termed *equitant*, from a Latin word meaning to ride.

The flowering stem or scape is so broadly winged as to resemble a leaf. The flowers are produced in small clusters from a spathe of two bracts nearly equal in length, or the inner one somewhat shorter. The pedicels are *filiform* or thread-like, and one cannot but wonder wherein lies their strength to support the fully developed seed pod.

In this flower, we have a good illustration of calyx and corolla combined into a colored perianth, each division of which is *mucronate*,

that is abruptly tipped with a short point. The stamens, three in number, are united into a single tube, and are said to be *monodelphous*. The three yellow anthers form a very pretty trimming for the top of this flower pillar, and since they open outward they are said to be *extrose*. (Compare with those of the lily). Rising slightly above the column of stamens is the pistil, with its three cleft stigma. Since it is just out of the reach of the stamens, how do you suppose the pollen comes in contact with the stigma? That it does, is plainly apparent by the numerous well-filled seed-pods.

The fruit (for from a botanical standpoint, the ripened ovary with its contents is *fruit*, be it in the form of pod, berry or nut), is globular, showing by creases on the surface that it is three-celled. A transverse section fully reveals the interior construction—three chambers, each filled with small, round seeds. In some cases ripened fruit is discharged through chinks, as in the poppy; but more frequently it splits lengthwise into valves and is said to be *dehiscence*. In this case the dehiscence is *loculicidal*, as the opening is down the middle of each cell, half way between the partitions. (See cross-section in illustration). Compare with the dehiscence of the tulip, lily, mallow and St. John's-wort.

Its resemblance in general appearance to the iris has already been observed. They are in fact full cousins, and while the blossoms are seemingly quite dissimilar, they really have many traits in common. When it is learned that the stigmas of the iris are broad and colored, one is less puzzled in discovering the analogy of remainder. It will be found interesting to see how many points of similarity and of contrast can be found between these closely related flowers; and if specimens of the tiger flower, blackberry, lily and gladiolus of the garden are obtainable, the comparison may be still further extended.

HARMONSBURG, PA., July 10, '95.

DEPARTMENT OF EDUCATION, }
CITY OF JEFFERSON, — 1895. }

THE State Superintendent of Public Schools will hold examinations for State certificates at the following places upon dates named:

Palmyra, Monday and Tuesday, Aug. 26th and 27th, in public school building.

Chillicothe, Wednesday and Thursday, August 28th and 29th, in High School building.

Springfield, Friday and Saturday, August 30th and 31st, in High School building.

Kansas City, Monday and Tuesday, September 2d and 3d, in High School building.

Somewhere in Southeast Missouri about the last of October.

Owing to the fact that the entire time of the Superintendent, during the summer, is occupied in Institute visitation and other official business in different parts of the State, it is impossible to give private examinations.

The examinations will begin promptly at 8 o'clock, a. m., on each day. Parties failing to appear in time to complete examination in three branches on the forenoon of the first day, will not be examined. Very respectfully,

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A Free Offer to Our Readers.

"The Heart," is the title of an excellent paper lately published. Not until we read this instructive treatise did we have the true conception of how wonderful is the work of the human heart. We quote by special permission of the author the following from the preface:

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the heart exerts 50 pounds of force, which amounts to 3,600 a minute, 216,000 an hour, and the inconceivable number of 5,184,000 in a single day! Now, it is necessary that all this vast amount of labor should be done, and well done every day. The health will surely suffer in consequence of the least failure on the part of the heart to properly perform its duties. When it is weak or deranged it directly affects every organ in the human body and they are unable to perform their duties from lack of blood and nerve force. Those organs that are more intimately associated with the heart are usually first to feel the effects when it is irregular and fails to perform its proper functions."

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3. The child has a soul to be kept pure.
4. Senses, heart and soul must be educated together.
5. Education leads to and from the family; the home is its unit.

NATURE STUDIES FOR YOUNG READERS—ANIMAL LIFE. By Florence Bass. Boston: D. C. Heath & Co. Boards. 172 pp. Price, 35 cents.

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THE MODEL MUSIC COURSE FOR SCHOOLS. By John A. Broekhoven and A. J. Gantvoort. The John Church Co., Cincinnati.

This series provides a Music Reader for each year of the Primary, Intermediate and Grammar Grades. The methods employed in the Model Course is entirely new and novel. The verses chosen are childlike throughout, and are carefully selected for their poetic narrative and instructive nature. The authors seem to have taken especial pains in selecting new and interesting songs which are thoroughly in sympathy with child life, and bring in also many songs which bring the child in closer contact with nature.

THE ENGLISH LANGUAGE; ITS HISTORY AND STRUCTURE. By W. H. Low, M.A. W. B. Clive, London and New York.

In this work the author shows the relation of English to other languages, gives a survey of the chief changes that have taken place in the grammatical structure of English; sources of our vocabulary, method of derivation, roots,

stems, prefixes, suffixes, gradation, etc. By studying this book, one learns much of the *why* of our language.

LEE'S SCHOOL HISTORY OF THE U. S. B. F. Johnson & Co., Richmond, Va.

Many of the school histories in use now are so prejudiced as to be unfit to place in the hands of our young people. Others have been so abridged and condensed, the most conspicuous feature of them being important matter of history that they do not contain; consequently there has been a constant demand for years for a school history that meets fully the needs and requirements of the times. In this work the author has, by the co-operation and collaboration of over a hundred experts in various lines, endeavored to prepare a work meeting fully the wants of our times. The book is nicely bound and beautifully illustrated, and contains much more matter than the usual school history.

FRYE'S COMPLETE GEOGRAPHY (308 pp.; \$1.55), Ginn & Co., Boston Mass.

This geography has been long expected by those who desire an improvement in the teaching of this branch, and now that it has appeared satisfies in large measure the hopes entertained regarding it. It is in many ways superior to the dull, useful miscellany which has so long dominated the schools. The first chapter is devoted to a general view of the earth. Next we are led to consider the main divisions, the great natural forces always working upon it, and the surface forms. The second part takes up each of the main divisions of the earth one after another for a more detailed study of its physical features. Third, we have studies of the races of men, of plants, of animals, and of commerce. The fourth part views political geography with reference to physical features and historic development. In the United States, for example, after a rapid sketch of the settlement and distribution of the people and the organization of the government, we have the climate, the chief vegetable and animal products and the mines treated as wholes, followed by rapid reviews of the industries and business centers of each of the six great sections of this country. The other grand divisions are similarly treated but with less of detail. The fifth part is a supplement of thirty-two pages, containing statistical tables, guide maps for drawing and modelling, a pronouncing vocabulary and a political atlas. Its procedure is always, as will be seen, from the more general to the particular, which permits the logical

and right association of what is learned, and builds a whole of knowledge instead of a confused heap of dry details. The book is superbly equipped with illustrative materials. The abundance of beautiful pictures alone is a mine of wealth to the teacher who knows how to use them in forming definite and accurate concepts; the numerous relief maps are the finest we have ever seen, and are as near a perfect substitute for the relief surface as it is possible to make.

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Messrs. Flood & Vincent, Meadville, Pa., publishers of text books of the Chautauqua Literary and Scientific Circle, announce for early publication the following volumes, which will constitute the course of reading for the American year, 1895-96: *The Growth of the American Nation*, by Prof. H. P. Judson, of the University of Chicago; *The Industrial Evolution of the United States*, by the Hon. Carroll D. Wright, United States Commissioner of Labor; *Initial Studies in American Letters*, by Prof. Henry A. Beers, of Yale University; *Some First Steps in Human Progress*, by Prof. Frederick Starr, of the University of Chicago; *Thinking, Feeling, Doing*, a Popular Psychology, by Prof. E. W. Scripture, Director of the Psychological Laboratory in Yale University.

The July *Citizen* contains "Notes on Education in Europe," by one of the most eminent of English educational experts, and an article on Pennsylvania Election Laws, by Dr. Albert A. Bird.

"O, will he paint me the way I want,
As bonnie as a girlie,
Or will he paint me an ugly tyke,
And be d—d to Mr. Nerli.
But still and on and which ever it is,
He is a canty Kerlie,
The Lord protect the back and neck
Of honest Mr. Nerli."

This, one of the last verses ever written by Robert Louis Stevenson, is in reference to the portrait of himself, which is given to the public with his verse for the first time in the July *Cosmopolitan*. The lines might have come from the pen of Burns, and are inimitable in their way. The portrait was declared by Stevenson himself to be the best ever painted of him. The *Cosmopolitan* was with this number reduced to ten cents per copy, and as a consequence, notwithstanding its large edition, it was "out of print" on the third day of publication.

D. C. HEATH & CO., Boston, have in press for immediate issue in "Heath's Modern Language Series," Labiche & Martin's *Le Voyage de Monsieur Perrichon*, edited with introduction and notes by Professor B. W. Wells, of the University of the South.

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JULIA MAGRUDER'S NEW NOVEL. Miss Julia Magruder, whose story of "The Princess Sonia," in the *Century*, is attracting such favorable comment, has given her new novel to *The Ladies' Home Journal*. It is called "The Violet," and deals with the question of second marriage. Mr C. D. Gibson, the illustrator, is making a series of pictures for the novel.

"THE Philosophy of School Management. By Arnold Tompkins, author of 'The Philosophy of Teaching.' Ready this summer. This is a companion and complement of 'The Philosophy of Teaching,' being based on the same fundamental principle; and written also under the conviction that the more closely the whole subject can be organized within a single principle, the more potent will it be in practice. The subject is treated under three main chapters: 'The Fundamental Law,' 'The Law as Evolving the Organism,' 'The Organism in Executing the Law.' Ginn & Company, Publishers.

"The Vicar of Wakefield," by Oliver Goldsmith, is No. 78 (double number) of "Riverside Literature Series." Rarely has this best work of one of the world's best writers appeared upon a neater page, and never in handier form. Price of this number 30 cents; yearly subscription (eighteen numbers) \$2.50. Houghton, Mifflin & Co., Boston and New York.



PROF. R. M. SCOTTEN, formerly editor of the *Central School Journal*, has taken charge of the subscription department of our Journal in Central Missouri. Prof. Scotten is a thoroughly practical school man and a very earnest worker in the cause of education. Our subscription list is already growing rapidly from the effect of his efforts, and we confidently expect many hundred more from Central Missouri.

THIS number is something we are proud of. Turn to the index and see the bill of fare which we set before our readers. Prof. Bryant's article, *Modern Education*, grows in interest. *Nature Study*, by Margaret Slater, is a very interesting article on that subject. The school-room department is full of good things. Bessie L. Putnam has another interesting article for young botanists.

OUR advertising pages also are full of good things. The Werner Co., of Chicago, are advertising some splendid books. Barnard's *History of Missouri* is a history and civil government and just what every teacher in the State needs. Krohn's *Psychology* is a wonderful book. It is having an immense sale both in Illinois and Missouri.

MUSIC in the public schools is now a necessity. The American Book Co., of Chicago, are right up with the times with the *Natural Music Course*. We hope every teacher will write them for specimen pages.

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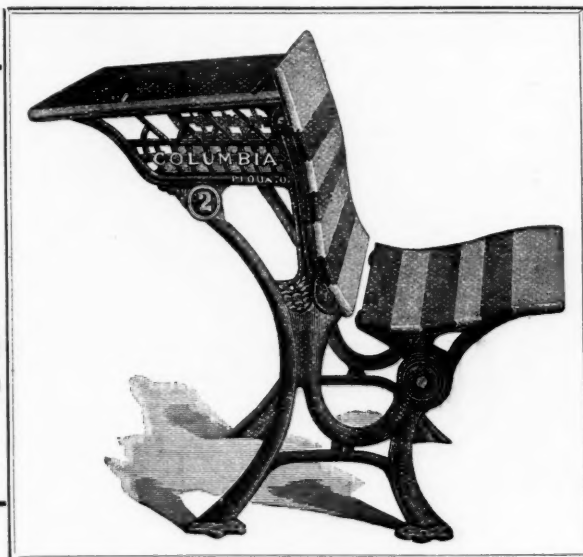
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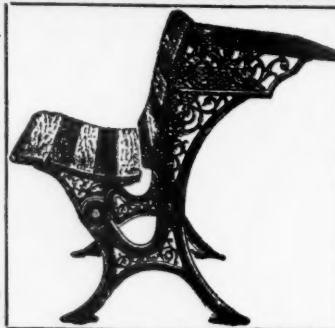
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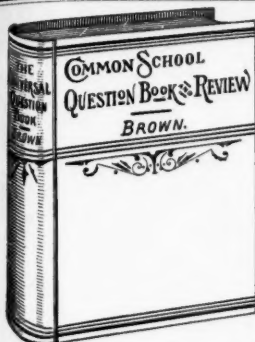
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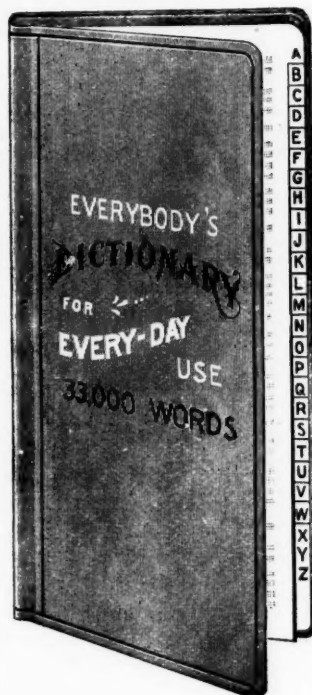
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